S&MM
SALES & MARKETING MANAGEMENT

NOVEMBER 16, 1981
A BILL PUBLICATION
TWO DOLLARS

AN S&MM SPECIAL SECTION
Sales meetings keep the team on the ball
Page 65.

The days of wine and robots

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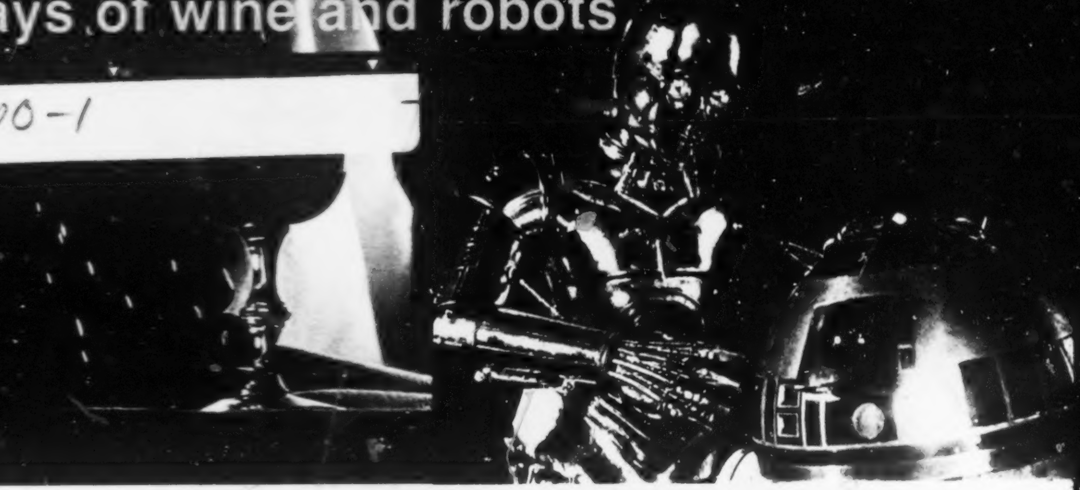

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Business news is good news. Increasingly, the media are finding that shows devoted to business topics and businesspeople find a ready audience. It's a major shift away from casting business as a national villain. Dec. 7.

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of its Atari 400 Home Computers by the Minnesota Educational Computing Consortium, headquartered in St. Paul.

Like the competition, Atari promotes brand name allegiance and the acceptability of microcomputers as a learning tool for the classroom and the home. "The home is our prime market," says Atari spokesman J. Peter Nelson, "but the schools are high up there." Director of educational marketing Chris Bowman points out that the two markets are interconnected: "Computers in the school will find their way home," he says. To lead them there, Atari's four regional sales managers and their distributors supply more than 2,000 dealer outlets, doubled from last year. Most school sales are generated through bid offerings. All this is aided by a national TV and print ad campaign.

Emphasis on software

It appears that schools are already sold on the hardware. A just-completed survey by Market Data Retrieval (MDR), Westport, CT, shows that 42% of U.S. primary and secondary schools employ "computer-assisted instruction," and MDR admits that this is a low estimate. The report also states that schools in higher income areas have most of the computers, an important finding for prospective home sales. (For more on microcomputer hardware and software, see the S&MM Salesgraph at right.)

To capitalize on this market, Atari is developing "courseware," which educators sorely need. Bowman emphasizes that the school market is "software driven—I'm spending my time acquiring software." So integral is this factor, he adds, "that I see us getting involved in marketing (independently produced) software." S&MM

NEW IDEAS

Computers find new quarters

Further evidence of the sprawling presence of computers: The Tredyffrin Public Library in Wayne, PA, has installed a coin-operated computer. The unit, which costs 50¢ per 15 minutes to operate, is used three to four hours a day by students learning to program and by curious adults seeking hands-on experience with a computer. Most popular are programs requiring mathematical skills and statistical manipulation.

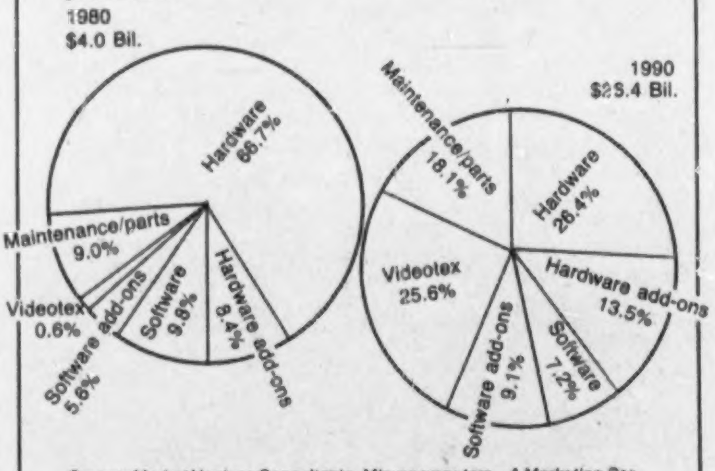
Compuvend Computer Systems, Inc., Philadelphia, built the vend interface equipment clement—that's a coinbox, computer style—and supplied the Radio Shack TRS 80 keyboard and TV screen to the library.

William Zimmerman, Compuvend president, says that five hours per day use is suffi-

S&MM SALESGRAPH

Where the chips will fall

Microcomputer (computer-on-a-chip) sales will rocket from $4.0 billion in 1980 to $26.4 billion in 1990, according to Market Venture Consultants (MVC), a Newport Beach, CA, research firm. Industry changes will be as dramatic as the sales curve. While Apple, Atari, Commodore, and Tandy have dominated the market up to now, by 1982 Hewlett-Packard, IBM, and Xerox will also be contenders in the race for market leadership. The important shift, of course, will be from hardware to software, but the proliferation of retail outlets will be significant, too. "The industry will turn into a consumer marketing game," says MVC chief Gerry Guyod, "as vendors rely upon different types of stores to sell their products."



Source: Market Venture Consultants, *Microcomputers—A Marketing Perspective.*

cient to break even, and that more sophisticated software will mean increased use. He expects to begin distribution in January through a network of dealers and distributors with whom he's currently negotiating.

BUILDING A MARKET

A frantic sell for relaxation

Pursuit of instant nirvana is part of the American way of life. There have been orgone boxes for psychic stretching, alpha brain wave therapy, and now flotation tanks. Like the one in the movie *Altered States*, the oblong, enclosed tanks are filled with 10 inches of a salt-water solution in which one floats, naked, losing all sensation. Often referred to as sensory deprivation, it's billed as the ultimate relaxation.

For the most part, sales have been based on word of mouth, but both Samadhi, Beverly Hills, and Float to Relax, Denver, the two heavies in the field, are expanding.

Samadhi, with three centers where people pay $17 an hour to float, has upped its Los Angeles plant's production to 500–600 tanks per month, and based on a worldwide marketing study conducted by the company, it is pursuing the franchise market. It now has five franchises and plans to open five more in California, Hawaii, and Arizona.

Float to Relax, whose sales for the first six months of 1981 have already matched sales for all of 1980, is pursuing a three-part marketing program developed by marketing director Jeff Jarvis, with the company since the beginning of the year.

Says Jarvis, "We've got a program aiming for three markets, the sportsman, the medical field, and the consumer, not just the individual consumer but the mass buyer selling to the consumer." The medical profession has mixed views on the therapeutic value of flotation tanks but both Samadhi and Float to Relax are promoting this aspect. Thus both were represented at the American Chiropractic Convention in Anaheim in October and both stressed the virtues of their tanks as a boon to good health.

As another marketing tool, both have put together stress packages with tapes of music and instructions for relaxing aimed at the executive.

MARKETS AT A GLANCE

The Southwest gets on the job

The Southwest will become the center for fast-growth industries development in the 1980s, according to projections of metropolitan employment by Chase Econometrics, Bala Cynwyd, PA. Eight of the ten markets expected to post the fastest job growth are in that part of the country. "The two major determinants in a market's long-term job growth," says Andrew Moody, director of metropolitan area forecasting, "are industry mix and business costs. The fastest-growing metros are heavy in the growth industries of the 1980s: electronic components, telecommunications, oil and gas extraction, and tourism." Virtually every rapidly growing metro is in a low-tax state, he adds.

	Annual Employment Growth, 1979-90	
Metro Market	*Growth Rate*	*Number of Jobs*
Houston, TX	4.6%	79,200
Fort Lauderdale-Hollywood, FL	4.4	18,100
Tucson, AZ	4.3	9,400
Las Vegas, NV	4.3	11,200
Dallas-Fort Worth, TX	4.0	67,600
Austin, TX	3.8	10,700
Phoenix, AZ	3.7	27,800
El Paso, TX	3.6	6,800
Tulsa, OK	3.6	12,400
San Diego, CA	3.6	27,300
U.S.	**1.9**	**1,889,500**

Source: Chase Econometrics
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AIRLINE MARKETING

Will AAirpass pass the test?

American Airlines officials say it's too early to tell how high their novel, two-month-old AAirpass program will fly (S&MM, Oct. 12), but it's already clear that they won't get much propulsion from major corporate travelers—or from travel agents. Arlene Macchia, who heads the 450-member National Passenger Traffic Assn. (NPTA), says her fellow company travel coordinators are

Once regarded mainly as a source of cheap textiles, Hong Kong is becoming a prime location for entrepreneurs making advanced electronic gear. Another reason for an upbeat tune: its growing role as middleman between China and the West.

No Hong Kong blues

By Thayer C. Taylor
Senior Editor Management Sciences

Clockwise from top: Mountains overlook skyscrapers on Hong Kong Island; temple dancers at Sung Dynasty Village; across the border in China, leg power is still a mainstay; "westerns" are popular movie fare.

The visitor who drives from Hong Kong's Kai Tak International Airport to one of the plush new hotels on Kowloon's Salisbury or Nathan roads is struck by a symbol of the British colony's new industrial image: a profusion of outsize neon signs touting the leading U.S. and Japanese electronic firms. If he takes the ferry to Hong Kong Island's Central District, he will note that the directories in the stone and marble skyscrapers list the names of many U.S. computer and hi-tech concerns, attesting to the fact that U.S. dollars account for 45% of all foreign investment.

These companies are using Hong Kong's strategic position as a springboard for penetrating the rapidly growing Southeast Asia market and, ultimately, China. William Newport, head of the Hong Kong Assn. of Travel Agents and a former marketing director of Pan Am, estimates there are about 8,000 Americans serving three-year hitches.

Clothing and textiles, which started Hong Kong on the road to industrialization in the 1950s, still dominate exports, but electronics is catching up fast. Last year, total exports rose 22% to HK$68.2 billion, but clothing and textiles posted a smaller 15% rise to HK$27.7 billion while electronics surged 33% to HK$12.9 billion. (One U.S. dollar is equivalent to five Hong Kong dollars.)

More significant is the shift in Hong Kong's electronics mix. "Low-cost labor and high unit-output originally attracted overseas investments," recalls economist Charles Chapman, Hong Kong Trade & Development Council, "but we have become more sophisticated. In one decade, we have moved from making simple transistor radios and electronic watches to complex semiconductors and computer memory systems." If local electronics firms lack the technological capability for pioneering new trends, he adds, they're extremely flexible in exploiting new trends with product variations of their own.

The burgeoning personal computer industry is the latest example. APF Electronics, Inc., New York City, which makes all of its calculators in Hong Kong, will bring out a business version of its hobbyist computer, the Imagination Machine, says computer division sales manager J.R. Esland. Lawrence Wong, marketing director of Eaca Computer Ltd., says his company, which began mass producing personal computers this summer, plans to ship 3,000 a month to Europe, aimed at the hobbyist market.

Looking for locals

Enthusiastic hopes that Hong Kong will eventually become a first-rank electronics center face two big roadblocks, however. Small companies dominate the industry, and, while they can churn out consumer products with ease, industrial electronics calls for a scale of R&D spending that is beyond their means. Also, the government's laissez-faire philosophy means they can't count on the kind of government research that triggered the growth of the computer industries in the U.S. and Japan.

Rampant speculation in the property market, which has gripped Hong Kong the past two years, is leaving its mark on the electronics industry. H.C. Tang, chairman of the Federation of Hong Kong Industries, warns that windfall profits from speculation in real estate are diverting needed resources from local manufacturing.

U.S. managers on the scene worry that the speculation is driving housing costs up to a point where compensation packages are no longer cost-effective. The Hong Kong American Chamber of Commerce predicts that in two years housing costs may jump betwen HK$40,000 and HK$100,000 per expatriate employee.

To counter the squeeze, U.S. companies are looking feverishly for local residents to replace the expatriates. Each day, the newspapers carry several pages of help-wanted display ads for a broad range of sales and marketing jobs.

Besides wrestling with costs, both the multi-nationals and local entrepreneurs ponder "the China question." The 99-year lease on the New Territories, encompassing 355 sq. mi. north of Kowloon, expires in 1997. China has always denounced that treaty, as well as the two others that ceded Hong Kong Island (29 sq. mi.) and Kowloon Peninsula (3¼ sq. mi.) to Great Britain. So far, China

Hong Kong's appealing market profile

	1980	Avg. Annual % Gain 1976–80
Gross domestic product (1973 HK$, Mil.)	$ 60,409	8.8%
Gross domestic product (current HK$, Mil.)	106,088	20.8
Personal consumption expenditures	73,106	25.9
Government consumption expenditures	7,250	27.6
Gross domestic fixed capital formation	29,312	40.4
GDP per capita (current HK$)	20,933	15.8
Foreign trade (HK$, Mil.)	209,894	29.5
Domestic exports	68,171	21.8
Re-exports	30,072	47.4
Imports	111,651	31.6
Population (000)	5,148	3.0
Total labor force (000)	2,371	4.7
Employment:		
Manufacturing	892	3.0
Wholesale and retail, import and export trades	314	3.8
Restaurants and hotels	133	4.9
Civil services	137	5.6
Daily wage index for manufacturing workers, including fringe benefits (Sept. 1980 base = HK$56.29)	215	15.2
Total manufacturing establishments	45,409	5.0
With overseas investments	460	11.8
Overseas investments in manufacturing (HK$, Mil.)	$ 2,543	7.4
Companies registered		
Local	81,206	17.0
Foreign	1,398	9.7
Consumer price index (1973-74 = 100)	161	9.0

Note: One U.S. dollar roughly equivalent to five Hong Kong dollars.
Source: Hong Kong Trade Statistics, Census & Statistics Dept.
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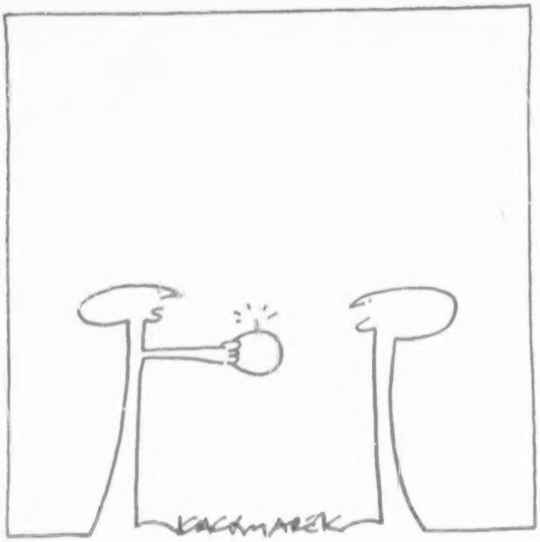

"WOULD YOU LIKE HALF?"

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hasn't indicated what it will do, although the reliable *Far East Economic Review* recently reported that high-placed officials in Beijing hinted at a "clarification" by 1983.

While 1997 seems far off, the issue will come to a head next year because of Hong Kong's standard 15-year mortgage. Would-be buyers of office buildings or factories after next July will be making long-term commitments for property whose post-1997 status is uncertain.

That doesn't faze Loy Chung, marketing manager of the Marco Polo Hotel, which opens next year. Typical of the young Chinese who have returned home after getting their education and starting their careers in Great Britain, he capsulizes the prevailing hope: "An independent Hong Kong is vital to China because it provides the middleman contacts with the West for managerial expertise, technology, and investment capital."

An awesome market

Certainly, Hong Kong's economy has gotten a boost from China's 10-year modernization program for agriculture, science, industry, technology, and defense. A two-way flow of massive investments gives Hong Kong a strong beachhead in a market of awesome potential and provides China with much-needed foreign exchange earnings.

To encourage foreign investment, China has created special economic zones for joint ventures in Guangdong and Fujian, the two provinces adjoining Hong Kong. It provides the land and labor as well as favorable tax treatment, and a foreign partner provides the managerial talent, equipment, and investment capital. By this summer, total investment in joint ventures came to US$1.6 billion.

Because of their shared language and customs, Hong Kong's financiers and industrialists play an influential role in a goodly number of the ventures. U.S. companies are also opting for their share, the two most recent ones being Holiday Inn, which will build a US$30 million hotel in Shumchun, and PepsiCo International, which is setting up a bottling plant in Shenzen.

Of more immediate concern is the slowdown in Hong Kong's tourism. Last year, the number of tourists rose only 4% to 2.3 million, the smallest rise since 1975, and their spending crept up only 2.3% to US$6.5 billion.

Although a blistering 15.8% inflation rate (vs. 9.9% in the U.S.) was said to be a cause of the slowdown, marketing manager Philip Kung, Hong Kong Tourist Assn., minimizes the impact, claiming "inflation was just as much a problem wherever the tourists came from." However, Dr. T.B. Lin, economist at Chinese Univ., says inflation hit tourists harder than official figures suggest because the prices they paid for goods and services soared 24%. Hotel rates alone rocketed 39%, according to Horwath & Horwath International's annual report, *Worldwide Lodging Industry: 1981*.

Conceding that a serious shortage of hotel space has hurt, Kung feels that an ongoing US$8 billion building boom will solve that headache. Thirteen new hotels that will open in the 1981-83 period will lift the number of available rooms from 14,437 to 19,506, he says. S.N. Chu, sales director of the Excelsior Hotel, notes that in order to help the association's pitch for more incentive travel business several of the new hotels will have meeting rooms and convention facilities equipped with the latest audio-visual gear.

The rooms won't come cheap, judging by the rates the newer hotels are posting. Defending them, Manuel Woo, executive director of the Hong Kong Hotels Assn., figures that escalating land prices have pushed construction costs in prime locations to US$100,000 a room. Howard Burbridge, sales director of M.M.A. Presentations Ltd., a London incentive-travel firm, thinks the building boom "will produce some interesting price wars between hotels in Hong Kong and those in Kowloon, thereby giving us far more options."

AN S&MM SPECIAL SECTION

SALES MEETINGS KEEP THE TEAM ON THE BALL

Planning a meeting that's worth the effort

By RAYNA SKOLNIK
Senior Editor

O.K. So your meeting has gone over budget. What else is new?

Now, if you want to do something about it, take some tips from the director of sales administration for an East Coast clothing manufacturer who faced the same problem. His solution: (1) Bring the next meeting back from the West Coast. (2) Choose an "off-season" location (Florida in the summer). (3) Monitor salespeople's expenses more carefully. (4) Plan a less lavish product introduction. The one thing he did not do was cancel, or even shorten, the meeting. It was too important, for a variety of good reasons.

Sales meetings train, inform, and motivate the sales force. They improve communications between management and the sales force, and among salespeople themselves. They also take time and cost money. The trick is to balance the benefits against the costs.

Few managers believe that they've hit upon the exact formula for doing that, and they're constantly trying new approaches. That's the overriding conclusion to be drawn from results of a questionnaire sent to 1,000 S&MM subscribers in August. Thus the articles in this Special Section are intended to help marketers plan more effective meetings while keeping a tight rein on costs, no easy assignment.

To ensure that meetings cover the topics that are of the greatest interest and value for the sales force, 80% of the 207 respondents, vs. 75% last year, ask salespeople to suggest topics for the sales meeting agenda (see tables). Sales force input may or may not have been responsible for the intriguing changes in agenda content revealed by the survey. This year, awards and recognition for the sales force are "always" on the agenda for 37% of the respondents, a big jump from 25% last year. And 20% of the respondents "always" announce incentive programs at the sales meeting, up from 12% last year.

Less talk, more rewards

However, the percentage of respondents who "always" include motivational talks dropped to 25% this year from 30%; it's the only category that registered a decline in the "always" column. That seems to indicate that companies have decided that they should give fewer pep talks and more rewards if they want the sales force to respond. (For ideas on how to use a sales meeting to kick off an incentive program, see the article on Avery International's Fasson Industrial Div. on page 82.)

The strongest category on the sales meeting agenda this year, as it was last year, is sales force feedback. Comments on the questionnaires reveal that getting the sales force to participate in a meeting is the most important thing—and often the most difficult.

The percentage of companies that say they're watching meeting costs declined slightly, although it's still a significant 55% (down from 59% last year). But respondents this year have a lot more to say about what they're doing to cut costs. The greatest effort is applied to the category where costs are largest: air fare. Companies are shopping around for the best deals, booking far enough in advance to take advantage of special rates, and choosing sites on the basis of travel cost as well as facilities. One way to reduce air fare costs, as well as to increase the relevance of a sales meeting, is to plan the meeting just before a trade show that people are already

Highlights of S&MM's sales meetings survey

1. Do you hold sales meetings at company sites, noncompany sites, or both? If noncompany sites are used, please indicate which ones.

Company site	64%
Hotel	49
Resort hotel	53
Conference center	13
Airport hotel	19
Budget motel	2

(Replies total more than 100% because of multiple answers.)

2. Is the sales force asked to suggest topics for the sales meeting?

	1981	*1980*
Yes	81%	75%
No	19	25

3. Who (by title) has the final say in determining the agenda for a sales meeting?

General sales manager	33%
Vice president, sales	26
Vice president/director, sales and marketing	12
President	11
Vice president, marketing	10
Director of marketing	6
Regional sales manager	2

4. How often are the following included on your sales meetings agenda?

	Always	*Often*	*Sometimes*	*Never*
Sales training	47%	29%	20%	4%
Product introductions	47	35	15	3
Information on competitors' efforts	40	38	19	3
Sales progress reports	65	20	11	4
Product promotions	43	32	20	5
Motivational talks	25	32	36	7
Recognition and awards for salespeople	37	26	29	8
Announcement of incentive programs	20	17	51	12
Sales-force feedback	74	20	4	2

5. Have you held any teleconferences or videoconferences in 1980 or 1981? (These are decentralized meetings in which participants are linked by a telephone or video hookup.)

Yes	7%
No	93

6. Do you plan to hold any teleconferences or videoconferences in 1982?

Yes	9%
No	81
Undecided	10

Base: 204 replies.

7. Have you tried to reduce meeting costs this year?

	1981	*1980*
Yes	55%	59%
No	45	41

8. Do you use your own sales force, independent reps, or both?

	1981	*1980*
Own sales force	50%	52%
Independent reps	14	8
Both	36	40

Base: 206 replies.

9. What are the approximate annual sales of your company or division?

	1981	*1980*
$10 million or less	23%	19%
$11–$25 million	26	23
$26–$50 million	15	20
$51–$100 million	12	17
$101–$500 million	14	16
$501 million or more	10	5

Base: 202 replies.

Except where noted, figures are based on 207 replies.

scheduled to attend, a procedure that several respondents say they follow.

Although teleconferences are being touted as a good way to save on both air fares and hotel costs, a mere 7% of respondents have tried them. Many people are intimidated by both the new technology and the idea of being "on screen." Marketers wanting to know more about this new technique may be interested to read why Hewlett-Packard considers teleconferencing such a good idea (page 96); accompanying that article are some tips on how to prepare executives and products to play a starring role.

Also in this section: EG Industries uses a meeting to make its three separate sales forces feel like part of the same team; Continental White Cap gets a sales promotion off to a good start by giving it a surprise introduction at a sales meeting; Miller Brewing gets its distributors into the spirit of competition with a mammoth series of meetings that include workshops and exhibits; Minolta's Photographic Products Div. holds a meeting with a French twist in Canada, a site now looked on more favorably by the IRS; Saddlebrook Resorts, just north of Tampa, benefits from the cross-selling efforts of 200-plus people at its parent company, Penton IPC; and Empire Life Insurance finds that incentive meetings are better in the Bahamas.

SIGNIFICANT TRENDS

Revolutionary data on sales costs
The Federal Trade Commission (FTC) has taken its lumps recently (page 14), but marketers owe it some thanks for the recently issued line-of-business reports that, for the first time, pinpoint advertising and selling costs on a 4-digit Standard of Industrial Classification (SIC) basis. To marketers, the reports offer a tool for comparing their own costs against those of their competitors.

What makes the data especially helpful is that they refer to specific lines-of-business rather than company. Too often, government data, such as the Census Bureau's monthly report on industry shipments, are distorted because a company's total sales are put into a single 2-digit category. Thus, General Electric data are lumped into the *nonelectrical* machinery sector. For the FTC, however, GE had to report information for such individual lines-of-business as refrigerators, power transmission equipment, and aircraft engines, all of which are in different 2-digit SIC categories.

The Internal Revenue Service's annual report on corporate income tax returns includes data on advertising, but only in a very general way. S&MM's annual *Survey of Selling Costs*, using data from an annual American Management Assns. survey, provides statistics on sales force compensation and travel and entertainment costs. However, because the number and quality of survey respondents change each year, industry categories are not consistent.

Thus, the FTC throws badly needed light onto an area where darkness prevailed. For the first time, marketers have a source where cost data will be consistent, and the level of detail meaningful, from one year to the next.

Because selling costs is the category that corporations generally are most loath to disclose, they fought the FTC tooth and nail, trying to keep the agency from getting this information to the public.

The first two FTC reports cover 1974 and 1975. Although six years old, the 1975 data are still useful because selling cost ratios, by and large, do not change that much from one year to the next. In fact, an S&MM analysis of the two reports discloses that the same 10 industries had the highest selling cost ratios in both years.

As the accompanying table indicates, the FTC report shows (1) media advertising expense as a percent of sales and (2) total selling expense (which includes advertising) as a percent of sales. Deducting the advertising figure from the total selling costs ratio will suggest the industry's share of sales that went to field selling expenses.

Coming at a time when concern over marketing productivity is rising, the FTC has contributed a valuable source of information. The reports also give small and medium-sized companies an analytical tool that can lead to more efficient selling costs management.

Where selling costs ratios are highest

	Percentage of Sales	
Industry	*Total Selling Costs*	*Media Advertising*
Drugs, proprietary	35.1%	20.1%
Perfumes, cosmetics, and other toilet preparations	28.6	13.8
Bread, cake, and related products	28.3	2.0
Cutlery*	25.6	12.8
Chewing gum	25.4	12.3
Distilled liquor	25.3	11.9
Household vacuum cleaners	25.2	3.0
Typewriters and office machines not elsewhere classified	23.7	1.2
Hosiery	23.5	9.4
Calculating and accounting machines, except electronic computing machines	22.1	2.8

*Cutlery ranks high because it includes razors and razor blades.
Source: Federal Trade Commission, Bureau of Economics, *Annual Line of Business Report: 1975 and 1974 (interim).*
Sales & Marketing Management

NOTE

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DECEMBER 7, 1981
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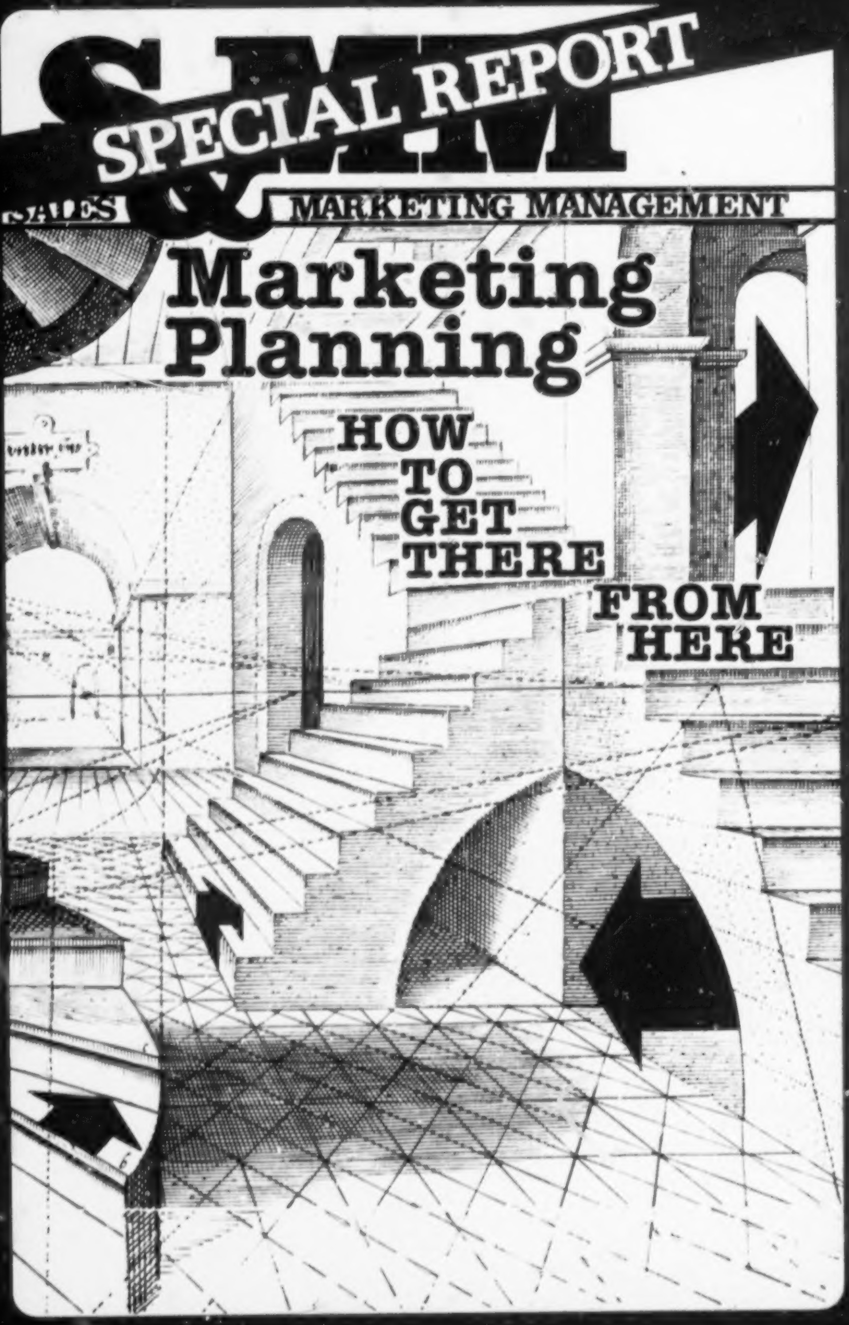

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Marketing Planning

HOW TO GET THERE FROM HERE

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ABP MPA BPA ABC

time at the checkout counter and reduces check processing costs. The only apparent drawback: customers lose the week or so "float time" that it normally takes a check to clear. Although shoppers like the system, state banking laws may slow its expansion. For example, banks could face jurisdictional snafus in multi-state metros, such as New York and Washington, DC.

RETAILING

Forging chains for health gear

Although they exceed $2 billion a year, sales of braces, walkers, and other home health care devices have eluded mass merchandisers and remained in the fragmented hands of 10,000-plus neighborhood dealers. Now at least four contenders—none of them major retailers—are setting up national sales networks. The largest are Abbey Medical (recently acquired by American Hospital Supply) and National Medical Enterprises (a hospital chain) followed by National Medical Care and G. P. Medical Services.

Atlanta-based G. P. Medical typifies how fast all four have grown. The two-year-old subsidiary of Glasrock Medical Services has 73 stores in nine metropolitan areas and accounts for two-thirds of its parent's $45 million in sales. In a field where most dealers wait behind counters, G.P. Medical has 50 salespeople out persuading doctors and hospitals to recommend its products.

Are the four front-runners merely stalking horses for a Sears or K-Mart? G. P. Medical marketing vice president Peter Berrall doesn't equate size with

S&MM BAROMETER

Wait 'til (next) Christmas

There will be little holiday cheer in next month's data on consumer spending as the Federal Reserve's high interest rate policy and worries over jobs and inflation continue to restrain shoppers. What's more, the doleful climate will extend well into the new year. Those are two findings of S&MM's annual poll of leading forecasters, whose combined predictions call for a 1.0% rise in real Gross National Product and a tepid 2.6% increase in consumer outlays (both in 1972$) during 1982.

Prospects for the second half are better than the first, however. "The combined effect of an easing in inflation and personal tax cuts will bring the first gains in real household buying power since the early 1970s," says Lawrence Chimerine, president, Chase Econometrics. Adds Data Resources head Otto Eckstein, "The tax cut next July will be worth $32 billion and will be reinforced by Social Security benefits increases."

Still, some worries persist. Michael Evans, Evans Economics president, warns that "there can be no recovery unless capital spending picks up, because that's the only offensive weapon left." Carol Brock Kenney, senior economist, Shearson/American Express, frets that "concerns over jobs and balance-sheet losses induced by high interest rates will blunt the positive impetus to spending previously expected from the Oct. 1 tax cut."

The 1982 marketing environment

Market sector	*1982*	*1981*	*% Change 1981–82*	*1980–81*
	Bil. of 1972$			
Gross National Product	$1,524	$1,509	+ 1.0%	+ 1.9%
Personal consumption expenditures	987	962	+ 2.6	+ 2.9
Durables	147	142	+ 3.5	+ 4.4
Nondurables	374	367	+ 1.9	+ 2.5
Services	466	453	+ 2.9	+ 2.7
Capital spending	161	161	0.0	+ 1.3
Housing starts (mil. units)	1.29	1.14	+13.2	−12.8
New car sales (mil. units)	9.7	8.9	+ 9.0	−1.1
Industrial production index (1967 = 100)	154	152	+ 1.3	+ 3.4
Consumer price index (1967 = 100)	296	273	+ 8.4	+10.5

Sources: S&MM estimates, Bache, Chase Econometrics, Data Resources Inc., Economic Analysis Associates, Evans Economics, Goldman Sachs, Manufacturers Hanover Trust Co., Mellon Bank, Merrill Lynch Economics, Shearson/American Express, A. Gary Shilling & Co.

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SELLING A SERVICE

Will used-car buyers nix kicks for pics?

Art lovers aren't rushing to view the exhibit, but Los Angeles has a popular new picture gallery—for used cars. Spurred by the decline in new car sales, entrepreneurs Jill Hall and Rory Ferguson borrowed a British notion designed to free used-car buyers from kicking tires all over the county and allow sellers to drive their cars until a buyer is found.

For $49, a seller gets a color photo of his vehicle hung in Contact-A-Car's storefront gallery and a listing in both the company's computer and a publication distributed to 300 retail stores. Because they list in volume, auto dealers pay only $25 per listing. Buyers are charged only when they want a specific model tracked down ($20).

"We're not interested in junks," says a company spokesperson. "We've found that cars in the $1,000 range are the big movers." And the cars are moving fast: Contact-A-Car sold 300 vehicles in its first three months and plans to open more L.A. locations soon.

S&MM'S SEVENTH ANNUAL AWARDS

Winners on parade

S&MM's Annual Awards Issue

There'll be a new look to S&MM's Seventh Annual Awards Issue, to be published Jan. 18. We will of course announce the top sales and marketing organizations of 1981 and tell our readers how the winners achieved their success. But there will also be a special article profiling outstanding entrepreneurs, and another on the hot new products of the year.

S&MM's editorial staff began tracking companies immediately after last year's winners were chosen. Evaluation began in September. The staff researched candidates in business and industry publications, and interviewed security analysts and other industry observers. They also talked to companies' customers, suppliers, and competitors, as well as to the candidates themselves. Individual editors then presented the results of their research to our board of editors, which makes the final decisions.

You'll find the winners in the Jan. 18 S&MM.

PERSONAL COMPUTERS

Panasonic's little Link

Invasion of the U.S. personal computer market by Japan, Inc., got into full swing last month when Panasonic, Secaucus, NJ, introduced Link, its hand-held computer. The Matsushita subsidiary is expected by industry observers to outrun such early starters as Casio, Sinclair, and Sharp (which also makes Radio Shack's entry) through aggressive marketing and a wide array of peripherals and software.

Underscoring the priority it gives the product, Panasonic created a new marketing division under Richard Lovisolo, general manager, portable electronics, and William Kopp, merchandise manager, hand-held computers. Kopp's biggest challenge: building a distribution network of independent sales organizations, such as systems houses, software suppliers, and computer stores.

With a basic processor priced at $600 and up, Panasonic won't try the consumer market for now, but observers say, it seems bound to make an impact on Hewlett-Packard, Texas Instruments, and other U.S. makers of top-end programmable calculators. Dr. Egil Juliussen of Future Computing, Inc., a Dallas research firm, predicts they will get in the fray because the hand-held's price is competitive and its memory capacity greater.

Sales of personal computers

Worldwide sales in units

	1981 (000)	*1985 (000)*	*Annual Growth**
Hand-held	250	2,500	78%
Desk-top	650	2,000	32
Portable	35	600	103
Total	935	5,100	55%

*Compound rate
Source: Future Computing, Inc.
Sales & Marketing Management

Kopp's first sales targets are Fortune 1,000 companies, small businesses, schools, and retailers. Because the 14-oz. Link fits in a briefcase and can talk with "host" computers, Kopp has big plans for a special market segment: salespeople.

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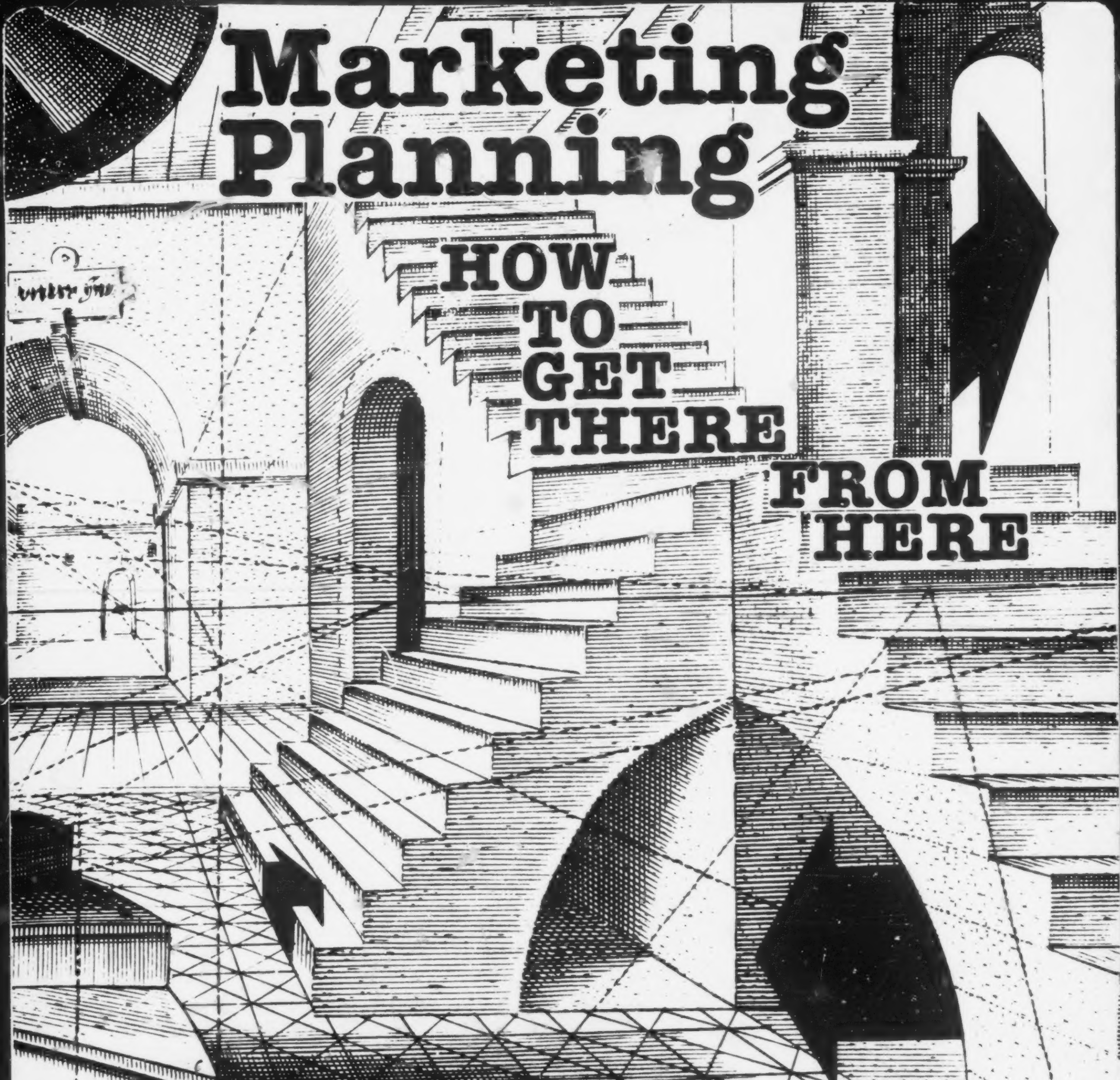
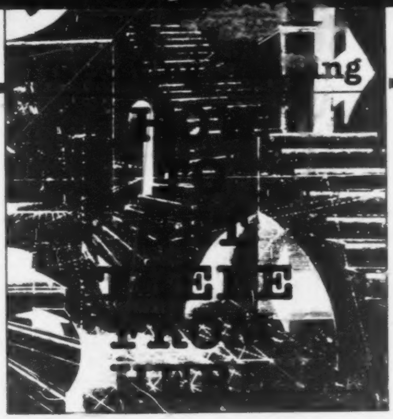
SPECIAL REPORT



Marketing Planning

HOW TO GET THERE FROM HERE



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Introduction

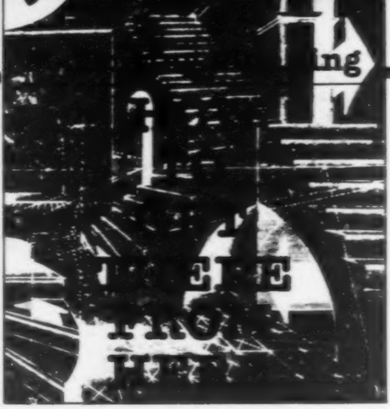
We have rarely seen a time when events seem to catch us by surprise more often than they do today. The federal budget is suddenly in turmoil again, just when we were assured that the beast was being tamed. The economy has taken an unexpected downward turn. Individual industries—petroleum, auto, computer, steel, retailing, to name a few—are in turbulence. Indeed, American business is in the middle of a wave of change, particularly in marketing. Up against odds like these, planning, as the saying goes, is everything.

There is plenty of evidence that marketers are taking that saying to heart. Few today would care to base their marketing planning solely on what the competition is up to or on guesses about what their customers' needs and buying habits might be a few years hence. Instead, as this Special Report will show, marketing planning has come of age.

The savvy planner today has sophisticated methods for tracking market share and for discerning the effects of pricing, advertising, and sales promotions on his future. Now planning often includes the role of the field sales force in reaching marketing goals. There are more controls built into the planning function to allow for reviews and alterations when necessary. Marketing planning is now more often synchronized with corporate planning, especially over the long haul. Naturally, the computer has a hand in all of these things.

So, with far better planning on the part of many marketers (and available to all), why do some of them fail in the marketplace? After all, nobody plans a disaster. Do they?

—THE EDITORS



Organizing for marketing planning

By RON PAUL
President
Technomic Consultants

Perhaps no management technique has generated as much discussion and activity during the last several years as strategic marketing planning. It was felt that strategic planning was something that belonged only in the large corporation and only in dealing with the global issues of structuring the corporation's "portfolio of businesses" to balance those needing cash and those generating cash.

More recently, however, it has been increasingly recognized that strategic planning is totally adaptable to an individual business unit of a large corporation or, in fact, to any business enterprise, regardless of size and regardless of whether that enterprise is a manufacturer, wholesaler, retailer, trade association or service organization, profit or not for profit.

Strategic marketing planning can be defined simply. It is how the management team specifies and selects the specific marketing actions that are appropriate to achieve the objectives set by the enterprise. The process concentrates on developing and articulating the key methods, "schemes," or concepts that a firm will utilize to employ its resources and advantages in order to out-perform or surpass its competition or, in the case of a new product or process, to exploit an apparent opportunity.

It differs from the annual marketing plan in both focus and detail. The strategic marketing planning process focusses on establishing a long-term direction for the business and in setting longer-term goals rather than focussing on the one-year "numbers" orientation found in the typical annual marketing plan.

Furthermore, the annual marketing plan will tend to detail line-by-line expense budgets and provide considerable tactical information regarding executing, for example, advertising strategies. It may, in fact, include media schedules, trade show plans, and other such details. The strategic planning process is concerned not with the details, but with the rationale behind the actions that might be outlined in the annual marketing plan.

In utilizing the process, careful analysis of the present businesses must be done, and, in addition, all alternatives should be considered. As a result, the strategy team is constantly cognizant of the basic elements present in the marketing mix, such as:

- Product line
- Quality
- Pricing
- Promotion
- Advertising
- Distribution
- Customer service
- Packaging
- Merchandising
- Sales activities.

There is no question that the planning process will naturally bring in other non-sales and marketing aspects and this should be considered as healthy and desirable. Experience shows that the basic thrust provided by the strategic planning process will lead to the natural development of other strategies necessary for the enterprise.

Let's start by stating some up-front conclusions about the Strategic Marketing Planning Process (SMPP).

It's a team report. This is not something that a chief executive officer should engage in privately since to be effective the whole management team must be involved.

It is not time consuming or expensive. Compared to the kinds of time devoted to other management activities, the time required is reasonable. For example, the process we will be outlining probably requires no more than five to eight days of management time in the year the process is introduced. Regarding cost, even if outside consulting is utilized, on an out-of-pocket basis, the cost of implementing the process is not that different from what an organization spends in

---

Ron Paul's company, Technomic Consultants, Chicago, compiles S&MM's annual "Survey of Selling Costs."

Figure 1

STEP 1: APPOINT COORDINATOR

STEP 2: SELECT CONSULTANT IF APPROPRIATE

STEP 3: GROUP MEETING I
PLANNING MEETING

1. Discuss the planning process.
2. Discuss/establish/review objectives and goals.
3. Initially define and segment present businesses/product categories.
4. Discuss the kinds of data needed to evaluate each area (internally and externally).
5. Assign responsibility for preparing data for next meeting.

STEP 4: DATA DEVELOPMENT

MAJOR CATEGORIES
EXTERNAL DATA

1. Environmental
2. Market conditions
3. Customers
4. Noncustomers
5. Channel(s)
6. Competitive

Consulting and research input may be appropriate

MAJOR CATEGORIES
INTERNAL DATA

1. Financial
2. Operating
3. Competitive
4. Environmental assumptions
5. Forecasts
6. Organization

STEP 5: GROUP MEETING II
SITUATION ANALYSIS MEETING

1. Agree and refine the segmentation of the present businesses/product categories.
2. Review internal and external data, including customer, noncustomer, competitive, financial, and operating data analysis.
3. Develop consensus regarding current strengths, limitations, and potential opportunities.
4. Initially define, screen, and group alternative strategies which appear feasible for detailed consideration.
5. Make assignments to individuals to analyze each strategy prior to next group meeting.

STEP 6: STRATEGY ANALYSIS

STEP 7: GROUP MEETING III
STRATEGIC REVIEW MEETING

1. Share results of each analysis performed on each strategy.
2. Review financial impact analysis of alternative strategies.
3. Develop management consensus regarding attractiveness and desirability of pursuing defined strategies.
4. Make refinements as appropriate.
5. Assign specific tasks to individuals in order to begin implementation process.

STEP 8: FOLLOW-UP ACTIVITIES

STEP 9: GROUP MEETING IV
REVIEW AND MONITOR SESSION

1. Review highlights of previously agreed to strategy.
2. Review tasks and action programs agreed to in Group Meeting III.
3. Monitor progress toward goals of each individual.

having an annual accounting audit performed.

Its payback is short term, not just long term. While much of the emphasis in the process will be in developing longer-term objectives and strategies, it can be demonstrated that the end product of the SMPP is the establishment of very specific short-term action steps to be taken by members of the management team. To that extent, it is a logical activity that can provide material to be integrated into the preparation of the annual marketing plan, if one is utilized by the company.

With these truisms behind us, what is the process?

Essentially there are only three questions to be answered:

◆ Where do we want to go? Or: goals/objectives/philosophies

◆ Where are we now? Or: positions/situations analysis (the marketing or situation audit)

◆ How can we get there? Or: Strategy development.

In order to answer these questions, we have outlined a nine-step process shown in Fig. 1. Note that we are recommending a series of group meetings with various members of the management team assigned responsibility for specific activities in the time between the scheduled meetings.

Depending upon the amount of work to be performed between the meetings, the process shown can be accomplished in a three-month period of time, or even less. The process recommended will tend to fit small organizations quite well since it relies more on personal and verbal communications and less on written documentation than the traditional planning process.

Here's a step-by-step method for marketing planning:

1. *Appoint a coordinator.* This individual should be selected because of his/her interest and knowledge of the planning process as well as ability to communicate effectively with members of the management team. This individual also plays a key role in providing the written documentation of decisions made during the meetings and in following through to see that assignments are completed on time and in the right amount of detail.

2. *Decide on the use or non-use of consultants.* It has been recognized that the management team *must and should* prepare the plan. On the other hand, consultants often have a role in the process in one of four ways:

- Guide the planning process
- Provide external information such as competitive data or market data
- Challenge particular plans or strategies of the group
- Be an objective resource for the management team and the chief executive officer during the planning process.

Many organizations have limited the use of consultants to obtaining necessary external data and this may be appropriate if the company is comfortable that the other reasons cited above are not applicable in its case.

3. *Schedule Group Meeting I: Planning Meeting.* This first planned meeting is an important one in getting the process launched. In particular, the discussion of objectives and goals is a critical step and one that requires prior thought. This first meeting can in almost all cases be accomplished in less than one full day.

4. *Develop the necessary data.* Typically it is well to allow a period of one to two months following the first meeting for the various members of the management team to assemble the data required. Often times market studies may be commissioned during this step to thoroughly evaluate the current businesses that the company is in, to identify critical issues and/or threats present in the markets being served, and to analyze and evaluate major competitors.

5. *Schedule Group Meeting II: Situation Analysis Meeting.* This meeting, which may require two days, is an important one in analyzing the company. As a result of the very detailed and thorough analysis in an objective manner of every product, every market, and every competitor, strategy ideas will naturally evolve. The most important end product of the meeting is the consensus regarding strengths, limitations, opportunities, and resources.

Also during this meeting, the first screening and grouping of alternative strategies takes place. Shown below are some examples of the kinds of strategy alternatives to illustrate how succinctly they can be stated.

- Expand geographically
- Withdraw from a product category
- Become a low-cost producer
- Develop technologically superior products
- Reduce dependence on few large customers

6. *Carefully evaluate and analyze alternative strategies.* After the second group meeting, each individual should be assigned specific tasks relating to one or more of the strategic alternatives. For example, the financial member of the management team will be asked to determine how each strategy impacts on the balance sheet and on the P&L statement.

At the end of the allotted time the planning coordinator should make sure that the analyses are succinctly written and are available for presentation and discussion at Group Meeting III.

7. *Conduct Group Meeting III: Strategic Review Meeting.* This meeting is devoted to a review of the strategies that have been under analysis since the last meeting. Prior to this meeting, the coordinator should sit with the chief executive officer and/or the board to make sure that the alternatives being considered are not, for some reason, unfeasible.

At the group meeting it is extremely desirable to reach a consensus regarding the attractiveness of pursuing specifically defined strategies. An important last step of this third meeting is the assignment of specific tasks to individuals in support of the strategies.

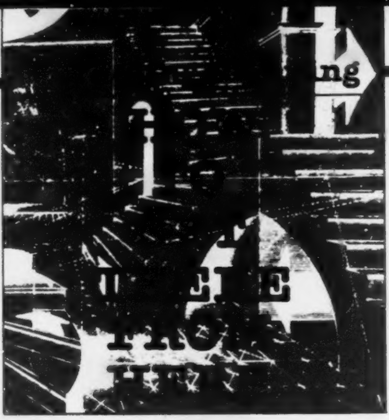
8. *Coordinator conducts regular follow-up on activities.* After the third meeting, the important work gets started. A major benefit of the SMPP comes directly from the fact that immediate action in support of longer-term strategies often is initiated and these early activities begin to show benefits during the current operating year. The action steps to be performed should be broken down into small tasks rather than large ones so that a feeling of continual progress is experienced.

9. *Conduct Group Meeting IV: Review and Monitor Session.* Six to nine months after Group Meeting III the group should again be brought back to examine the progess that has been made and to make sure that the strategy consensus that was previously developed is still present. If modifications are necessary in either the strategies or the action steps, this meeting will also provide a logical forum for making such changes.

Perhaps the most pressing reason why an organization that hasn't gone through this process should do so is that its competitor either has or is going to do it. Management is learning to think more strategically about its business.

In a larger company it may be mandatory for the marketing group to exercise leadership in the strategic planning area. Otherwise it is possible that a different functional group within the company might tend to direct the planning activities. Given this writer's bias for wanting to take a market and competitive-dominated approach to plans, the dominant thrust of long-range planning should be marketing.

A final thought: The Strategic Marketing Planning Process, which can be recycled as often as conditions warrant, ensures that a marketer continues to think strategically for the long haul, but also has action plans for the short term.



The dawn of planning at Dana Corp.

By GERALD B. MITCHELL
Chairman
Dana Corp.

1979 was a year that started good and ended bad. The area that was hit the hardest and the quickest was the light-truck market. Dana lost literally hundreds of millions of dollars in sales almost overnight. We were installing new equipment to give us added capacity—equipment that had taken 18 months to 2 years to obtain—when our market disintegrated. We not only didn't need the added capacity, but the capacity we had far exceeded the demand. We had to lay off people and close plants.

This bruising and completely unpleasant experience hastened our re-evaluation of the company and its future.

In December, 1980, we identified eight markets where we had experience, skills, and products. We redefined our three group Tri-Pod to focus on these markets and special niches within them. We had introduced the Tri-Pod concept in 1975; our goal was to divide our sales into three groups: vehicular, industrial, and service, and the Tri-Pod was a way of drawing the attention of our people to the need for a broader base.

We appointed a market strategist for each of these markets. The strategists were operating people at the division level who were given this as an added assignment. They were division presidents, vice presidents, and general managers who had expertise in the markets to which they were assigned. From a marketing standpoint they reported directly to the corporate Policy Committee.

The role of the market strategists was to:

1. Define and quantify the assigned market worldwide
2. Identify sub-markets and niches
3. Identify market opportunities
4. Establish market-related goals and objectives for applicable Dana products
5. Evaluate technological requirements and protect offerings in relation to market needs and develop appropriate strategy
6. Know market-related financial performance
7. Maintain worldwide overview of the assigned market
8. Review market strategy with the Policy Committee on an annual basis.

It has been a year since we made this change. In that year we have successfully converted our people at all levels and they now talk markets, market niches, and market goals.

We have broken with our tradition. The first 65 years were closely allied with cars, trucks, and Detroit. The next 10 saw some diversification, but we were still product oriented and very heavily dependent upon our traditional markets. Over the next four years we added and emphasized the addition of the industrial market through the Tri-Pod concept. Only in the past year have we identified our eight current markets and begun the big swing in attitudes and actions from a product-centered view of the world to a market view.

To make a change like this this fast, you *must* have an organizational climate that will accept change. We've been working for 10 years to build that climate.

To summarize:

1. You must have the conviction that change is necessary, and be committed to making that change. It probably isn't possible to chart a detailed map of where you or your organization want to be in 10 or 20 years. In that period of time you will come to numerous crossroads and a few forks and you must be flexible enough to make decisions that are appropriate at the time.

2. You must create a climate for the change. People must accept a reason for the change and be able to adapt to it.

3. You must work at the change—you have to get on your soap box and preach to the people. You must sell the program.

This article is based on an address Gerald Mitchell made at the Conference Board's 1981 Marketing Conference.

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4. And finally, if you've done all of the above, you must let your people do their job.

Dana has taken on a new look. We have broadened our base to include much more than the parts for trucks which were so important to us in the past. Our sales mix has dramatically changed. Today General Motors and Ford are each less than 10% of our sales. Our annual distribution and aftermarket sales have increased from $100 million to $1 billion. Our industrial operations are now generating sales of $600 million per year. Our economic environment is changing, and to survive and prosper, Dana must continue to change. Survival means change. Our goal is to position ourselves for success in tomorrow's economic and political climate, whatever that may be.

FROWN
AND THE WORLD
FROWNS
WITH YOU
JOSEPH FARRIS

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Why people don't plan

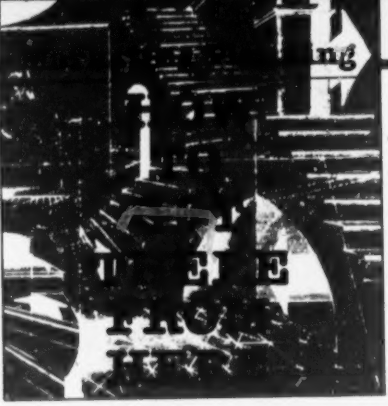
Rank order by first choices:

1.	Too time consuming	19.15%
2.	Knowledge deficiency	12.66
3.	The future is too uncertain	10.71
4.	Attitude deficiency	9.74
5.	Skill deficiency	7.46
6.	Live for today	6.81
7.	Too much work involved	6.49
8.	Don't like or understand process	5.19
9.	Fear of failure	3.89
10.	Man lives by intuition	3.57
		85.71%
	All others (9)	14.29
		100.00%

Rank order by combining first and second choices:

1.	Too time consuming	14.61%
2.	Too much work involved	12.01
3.	Knowledge deficiency	11.52
4.	The future is too uncertain	9.25
5.	Skill deficiency	8.60
6.	Attitude deficiency	8.44
7.	Don't like or understand process	5.68
8.	Too difficult	4.87
9.	Live for today	4.87
10.	Fear of failure	4.22
		84.07%
	All others	15.93
		100.00%

Excerpted from an article, "Why Managers Resist Planning," by Jack Bologna, president, George Odiorne Associates, Plymouth, MI, which appeared in *Managerial Planning* magazine. Bologna's company surveyed 308 managers; 40% of them said they did not believe in planning, for the reasons given.



AN S&MM SERIES
THE COMPUTER
IN
MARKETING

Computers that plan

By THAYER C. TAYLOR
Senior Editor/Management Sciences

William Meserve, senior management consultant, Arthur D. Little, Cambridge, MA, recently told a Conference Board audience: "Managers face two choices—spend more time securing information and analyzing alternatives, or make fewer well-informed decisions. The latter is unacceptable, so managers must have new business information and analytical tools."

His call to action has already been answered, as marketers are making more use of management information systems that wed data bases, computers, and mathematical models into a potent planning aid. The effectiveness of such systems is being enhanced by the development of on-line systems that give the marketer the ability to use the computer directly as well as by syndicated data bases that link the company to the outside world. (Indeed, there is so much data available, or waiting on the horizon, that some planners already talk about an "information overload" that could hamper decision making.)

Says James S. Figura, corporate market research director at Richardson Vicks, Wilton, CT: "Because it can handle large masses of data at electronic speed, the computer gives the marketer more time to reflect, analyze, and identify business opportunities." Adds Joseph P. Thompson, systems management director, Kraft Foods, Chicago: "Where the computer is invaluable to the planner is in its ability to search through massive data bases rapidly, do speedy arithmetic, and give him just what he needs."

The information explosion triggered by the computer can be a boon or bane to the marketer. A boon if, as Van Mayros, senior partner, Infomark Systems Associates, Gainesville, FL, puts it: "He lets the machine do the legwork in manipulating the data for the ongoing quantitative and qualitative analysis that is the heart of the planning." A bane if he lets the torrential tide of printouts swamp him.

Computerized information systems require an extensive learning period. Once the data base is in place—which, most experts agree, should have two to five years of historical data—the marketing planner goes through a learning curve as he builds models that capture the interrelationships between, say, selling time, advertising, and population age groups.

Organize the data

Dr. M.C.A. van Nievelt, director of corporate management services, Nestlé, White Plains, NY, explains: "The first thing is to get the data organized in a way that it can be manipulated. Then the planner starts with simple analyses and gradually works up to progressively more complicated ones. Hopefully, those analyses result in a mathematical model where cause and effect are related to each other. Once he establishes a relationship between an action he took in the marketplace and what occurred as a result, he has a planning tool."

"Using the model," van Nievelt continues, "the marketer can look over his shoulder at history to see what happened in the past that might explain what will happen in the future if he makes certain decisions regarding, for example, sales force size or advertising spending. That's what planning is all about."

Top management can be a guide for model-building starting points. Speaking at the recent Info 81 conference, James M. Mecredy, director of performance research, Holiday Inns, Memphis, TN, advised: "In building an information system, start with what management has been using and improve upon that as you develop more precise information. In time, you learn new ways of developing information and management learns new ways of utilizing the information to make marketing decisions."

Whether their needs are simple or complex, marketers are harnessing the computer in various "subsets" of marketing planning, as the following examples demonstrate:

The most challenging areas of marketing analysis

Effective trade and consumer promotion	**27%**
Advertising research and effectiveness evaluation	**26**
New product development and evaluation	**20**
Long-range competitive forecasting	**14**
Pricing impact evaluation	**10**
Consumer attitudes and behavior	**9**
Influence of economics and lifestyle factors on buying patterns	**7**

Other areas mentioned:

- **Market auditing and competitive analysis**
- **Integration of market data and consumer test results**
- **Market and consumer modelling**
- **Tracking of competition from private labels**
- **Strategic planning**
- **Evaluation of local markets**

Note: Based on responses from the 58 largest consumer packaged-products firms.
Source: Temple, Barker & Sloane, Inc.
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Productivity—Harold E. Chappelear, director of domestic pharmaceutical marketing, Upjohn, Kalamazoo, MI, is tackling the biggest issue confronting marketers: sales force productivity. He's building a series of models that test the relationship between sales force size and productivity as well as the allocation of resources between personal and nonpersonal selling.

After reviewing three-year histories of various sales territories, he created two sets. In one set he split the territories to create new ones, thus enlarging the sales force, and for each of these he matched it with a territory in a control group that has similar characteristics but which is not changed. The two sets will be tracked over a two-year period.

Preliminary results, Chappelear says, indicate that "for the first six months the new territories have a loss in sales. However, as the new salesperson acquires experience the net result is a gain in sales."

A related model aims at discovering where salespeople can be located most effectively. Here, market potential is factored in, along with data on revenue per salesperson and sales coverage by Upjohn and its competitors. "If management gives us approval to hire another 25 salespeople," Chappelear says, "We want to be sure we'll locate the new hires where they'll be most productive."

Other models explore the allocation of resources between personal and nonpersonal selling. This effort measures the impact of changes made in a salesperson's selling time, and in journal advertising, direct mail, scientific symposia, and public relations. "No one can give you a good fix on the values of variations you make in any of these factors," Chappelear says. "We want to get a handle on those variations so that we'll know whether increased selling time or more direct mail will give us a better return on investment."

An important model input is competitor activities. "We have new products coming along that will make us compete with Wyeth Laboratories and Hoffman-La Roche. By analyzing how competitors allocate resources to support certain products, and the results obtained, we'll have a better mix of strategies when we bring out our products," Chappelear says.

The upshot of all this computerized planning, he notes, "is to give us more flexible marketing plans. Before, we adopted a plan and were locked into it, come hell or high water. Now, by sticking closer to the marketplace, and noting from our models when variations in the interrelationships occur, we can make adjustments on the spot."

Sales strategy—Jeffrey J. Fox, marketing vice president, Loctite, Newington, CT, relies on computerized planning to rank accounts and prospects according to their revenue potential as well as analyze sales coverage across different account and market sectors (customer industries). His data base includes information on the salesperson's account plan and call reports, enabling his manager to quickly decide if he is concentrating enough on high-potential accounts.

Fox is building a sophisticated computerized matrix of his 11,000 customer base that classifies, on the basis of potential, both accounts and markets on an A-B-C scale. Customers that are "Aa," for example, get the biggest share of salesperson time because both their account and market potential are the highest. Following them, in order, are accounts classified Ab, Ac, Ba, Bb, and so on.

With this computerized structuring, Fox notes, "we can scientifically determine which accounts our salespeople should call on, which ones we can turn over to distributors, and which ones we can solicit with direct mail. Ultimately, we can overlay this on a map of the U.S. and get a bird's-eye view of where our people are and where they're not and the same for our distributors and business prospects."

Fox sees computer-based planning as having "vast implications for recruiting and staffing a sales force. That's because we'll have better insights on whether we have the right balance of high-level sales calls and high-level accounts, and whether we should stress vertical industry marketing or geographical regional marketing. The basic thing is to give your sales force proper direction, to make sure the sales force is concentrating on the highest payoffs."

Marketing mix strategy—Calvert Distillers, New York City, is in the second stage of building a model that will pinpoint the payout periods of selected marketing tactics. The first phase was devoted to scenario-writing, wherein certain assumptions were made about projected expenditures for field selling, advertising, sales promotion, and merchandising. Also, certain local markets were selected where changes in the marketing mix would be made. Assumptions about competitor response to Calvert's stratagems were also built into the model.

In the current phase, the markets will be tracked for two years. Fred G. Ronai, senior national product manager of Lord Calvert Canadian whisky, notes, "it takes that long before you can be sure the model works. Later, we'll analyze the changes that occurred as a result of actions we took and where the extra investments paid off. Once we know more about what level of spending pays off under what conditions we'll be able to translate that strategy to larger parts of the country."

Advertising strategy—Before Bell of Pennsylvania, Philadelphia, embarks on a direct mail campaign, Barbara L. Connor, advertising analyst, runs a simulation model that estimates the likely level of profitability. "Based upon the expected return," she says, "we have a better idea of how much to spend or whether we should kill the promotion."

Built two years ago, the model is continuously updated with the results of each campaign. "The inputs must be as current as possible, and reflect prior experience," she notes. "Also, the data must be updated to reflect the higher costs of advertising and product."

The model is used for products sold to both the consumer and industrial markets. Hence, different assumptions are factored in when the campaign is aimed at the residential market or, say, the government-medical market.

Connor reveals that the level of sales-per-dollar of advertising has risen significantly since Bell began using the model. Equally important, she adds, "because it enables us to prioritize our uses of direct mail, we have been saved from spending money that would not have been justified by the payout."

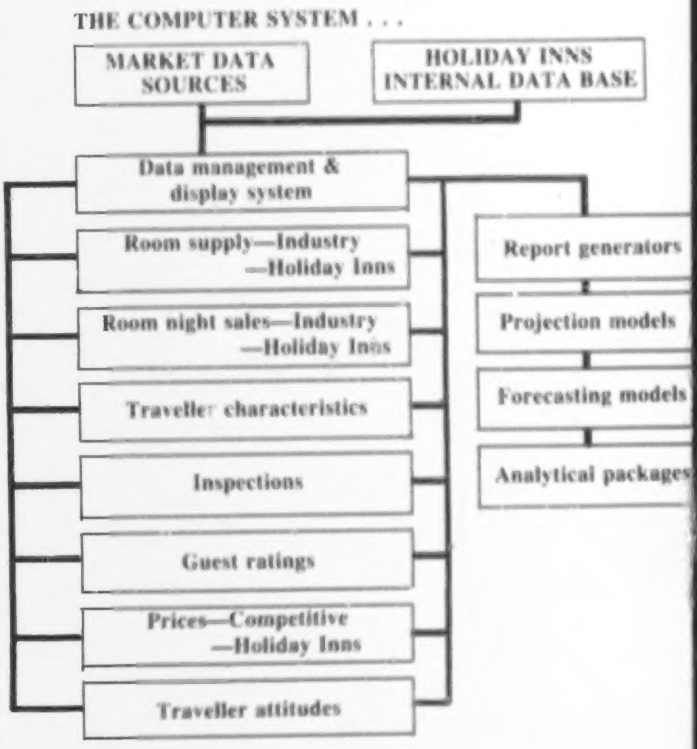
Human judgment plays a vital role in interpreting the model's forecast. "The process doesn't give us a precise dollar figure on the profits we can expect," Connor says. "It provides a range of payouts, giving us greater confidence that there is a certain probability that we'll achieve a given level of profitability."

New product strategy—When Barry J. Yelenik, director of marketing services, Worthington Diagnostics, Freehold, NJ, plans promotion strategy for a new product, he sits down at his desktop terminal to work with a data base that has profiles of everyone who has come into contact with his company.

Information on a hospital, for example, will include the types of tests it conducts, the instruments and chemical reagents (both by brand) used in the tests, the number of beds, and the type of hospital (government or private). To help Yelenik qualify the accounts, information on the buying influences indicates the purchasing plans and the level of interest in particular tests, instruments, and reagents.

Recently, Worthington Diagnostics brought out a new instrument that separates chemical compounds by having them migrate at different rates of speed according to their electric properties. Once the decision was made to use direct mail as the media strategy, Yelenik pulled from his data base a list of all accounts that had shown an interest in such an instrument, and analyzed the

Computerized marketing planning at Holiday Inns


THE COMPUTER SYSTEM . . .
MARKET DATA SOURCES
HOLIDAY INNS INTERNAL DATA BASE
Data management & display system
Room supply—Industry —Holiday Inns
Room night sales—Industry —Holiday Inns
Traveller characteristics
Inspections
Guest ratings
Prices—Competitive —Holiday Inns
Traveller attitudes
Report generators
Projection models
Forecasting models
Analytical packages

brands of equipment and reagents the accounts used.

"When the planner knows who is interested in what," Yelenik says, "he is in better position to target his audience as well as style the direct mail for specific audience segements." This precision targeting paid off. "Most direct mail campaigns result in a 2%–3% return," he reveals. "This one did more than ten times better than that."

The decision to use direct mail stemmed from advertising analyses Yelenik can do with his data base. "Because we track all leads that result from our sales promotions," he says, "we can calculate for a product similar to the one we introduced the advertisement's cost-effectiveness. For example, a journal ad that costs $50,000 and produces 100 leads cost us $500 a lead. A $20,000 direct mail campaign generating the same number of leads costs only $100 per lead. On that basis, direct mail is more cost-effective."

The data base's details on competitor brands can also be used for sales force planning, says Melvin D. Platte, president, Impact Systems, Lexington, MA, which designed Yelenik's computer model. "Once you know your 'market share' in each account," he says, "you plan sales call patterns more effectively with your salesperson. While you want him to serve all customers, you also want him to pay special attention to those accounts where a comparison of your own brand and the competition reveals where you have the greatest potential for making inroads or expanding market share."

Business opportunities—As marketers become more adept at using computerized information systems, their demands become increasingly sophisticated. A case in point is Holiday Inns.

Initially, simple models for measuring lodging demand nationally and in a few major markets were developed. The company is now building computer systems which combine internal and external data bases in order to have data bases on room supply, room-night sales, traveller characteristics, inspections, guest-ratings, and prices.

"The aim," says James M. Mecredy, director of performance research, "is to develop a history of several reliable market measures which can be combined to measure total lodging demand and provide independent checks on the key variables." Some of the variables: (1) industry supply (rooms available), (2) lodging demand as revealed by consumer tracking studies, and (3) industry occupancy ratios.

Systematic procedures pull the different data sources together (see illustration, shown here). "Folding the data sources together," Mecredy says, "is our key to providing management with a dynamic market information system which can be refined as new data sources become available."

As additional sources are tapped, Mecredy is expanding planning horizons. He is now building

. . . AND THE MARKETING DATA BASE

Terminals

Members
of
Operating Team

MARKET PERFORMANCE	INFORMATION NEEDED	DATA SOURCES
Lodging industry supply	Supply by market	Government
Supply characteristics	Downtown-roadside	Industry publications
Demand for lodging	Luxury-budget	Competitive directories
Demand influencing factors	Sales by market	Traveller surveys
	Business vs. pleasure	
Holiday Inns overall performance	Downtown-roadside	Holiday Inns system data base
Character of Holiday Inns system	Market supply share	Traveller surveys
Competitive position	Market demand share	
	Demand by traveller segments	
Holiday Inns program performance	Guest satisfaction	Guest surveys
Product Pricing	Competitive prices	Pricing surveys
Advertising	Guest attitudes	Traveller surveys
Promotions	Traveller awareness and usage	Inspections
	Traveller participation	

systems on competitive prices, guest ratings of product quality, traveller attitudes, airline passenger miles, and auto travel. This complex mosaic of computerized information, he says, will enable management to plan more effectively in such areas as selecting markets for new hotels, allocating advertising spending geographically, tracking market shares, and setting prices for company-owned properties.

Trade promotion strategy—Logistical planning wheels are set in motion at American Can, Greenwich, CT, when a Dixie Cup trade promotion is scheduled. Once the company knows how many retail accounts will participate, and to what extent, Paul D. Birkham, managing director-operational control, has his computers figure out the smoothest, least-cost flow of product from manufacturing to retail store.

"The whole pipeline has to be analyzed," he says, "including the cost of manufacturing, physical movement of merchandise, stocking of chain warehouses, and our own inventory control. It's like a chess game where every piece has to be in place if your strategy is to succeed."

To make sure that all the pieces are in place, the computer generates production schedules for each manufacturing location, plots least-cost distribution from factory to chain warehouse, prepares substitutions if a plant is unable to supply the nearest chain warehouse, and schedules deliveries so that the product will be on store shelves when supporting advertising breaks.

"Because the data must be gathered from several points," Birkham points out, "you need a computer system to put it all together and keep track of what's going on so that people can make intelligent decisions. Invariably, a decision has to be made on alternative courses of action. Having the information available enables people to make such decisions more intelligently."

Profitability planning—The feeling that there is a strong correlation between market share and profitability has gained a wide following as a result of work by Strategic Planning Institute (SPI), Cambridge, MA. Based upon information from 2,000 business units, SPI's model, called PIMMS (Profit Impact of Market Strategies), estimates return-on-investment (ROI) for a given business, under given industry and market conditions, following a given strategy.

Value of market share

Mel Applebaum, senior director-management sciences, M&M/Mars, McLean, VA, finds the model helpful when assessing the profitability impact of strategical moves aimed at increasing market share. "No matter what business a company is in," he says, "the model's aggregates show that both market share and product quality are highly related to ROI."

He uses the model to evaluate proposed alternative strategies. "We look at aggregates that have the same characteristics as ours," he says, "such as market share, product quality, and financial parameters. Then we make assumptions of what we plan to do and go back in history and see what happened to the aggregates under similar circumstances. You get a pretty good idea, relative to the data base, about whether your planned moves are good or bad ideas."

Two trends promise to make the computer even more widely used in marketing planning—on-line systems and syndicated data bases. The on-line systems, which give the marketer direct access to the computer, provide speedy answers to his "need to know." Outside date bases, with models of the external world, give the marketer a perspective on the demographic and socioeconomic factors that will affect his strategies.

The growing popularity of on-line systems is linked by Diebold Group's vice president Michael Weiner to "the trend to make information more accessible to, and easier to manipulate by, the end-user. When a marketer asks a 'what-if' question, he usually must have the answer right away."

Trial and error

Equally important is the learning process that takes place. "Questions are not always formulated correctly the first time around," Nestlé's van Nievelt points out. "The answer that comes back suggests another question, and this trial-and-error process goes on until the marketer hits upon the real question he had in mind."

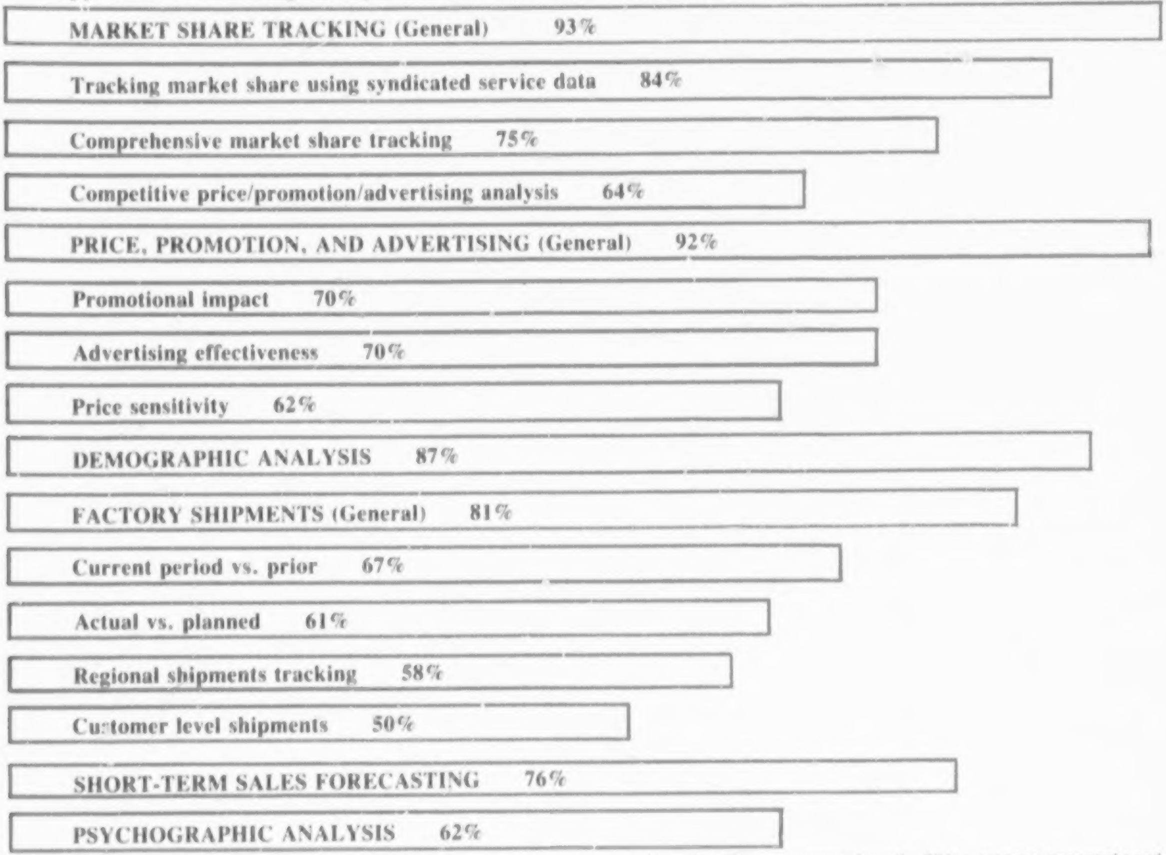
Because marketing planning embraces the total environment in which marketers compete, information on the external world is being married to internal data on shipments, advertising, and so on. External-type information ranges from recordkeeping data that tracks a product after it leaves the shipping dock to elaborate economic models.

A survey by Temple, Barker & Sloane, Lexington, MA, underscores marketers' demand for data. According to Timothy A. Davidson, consultant, a survey of 58 big consumer packaged-products firms found "two-thirds using both A. C. Nielsen for in-store movement and SAMI (Selling Areas/Marketing) for warehouse withdrawals. The most popular consumer diary panel was NPD Research, with 25% using it. One-quarter use Majers to track newspaper and coupon promotions."

Planners opting for detailed models of the overall environment can select from a menu offered by Data Resources, Lexington, MA a McGraw-Hill subsidiary. A demographic forecasting model, for example, projects future population changes for age, sex, occupation, income, and family size. These changes are linked to the consequences of expected economic trends, such as a recession's different impacts on lower and upper-income groups. Another part of the model uses consumer panel diary information to develop user penetration among different population segments.

"A marketer can apply the model's forecast to

Types of marketing analysis done by large companies



Note: Based on responses from the 58 largest consumer packaged-products firms.
Source: Temple, Barker & Sloane, Inc.
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his product," says Nathaniel Welch, marketing director, consumer research division, "and get an estimate of his total market potential as a result of the anticipated changes. Information on the expected changes puts him in a better position to plan marketing strategies that will be in alignment with target markets."

Welch notes that clients are showing more interest in developing pricing strategies that are related to productivity and profitability goals. DRI has built a Resource Allocation of Strategies model whose main inputs are a company's use of labor, capital, and materials (which includes equipment). The model measures how efficient the company is at turning each of the three resources into output and combines this with pricing information.

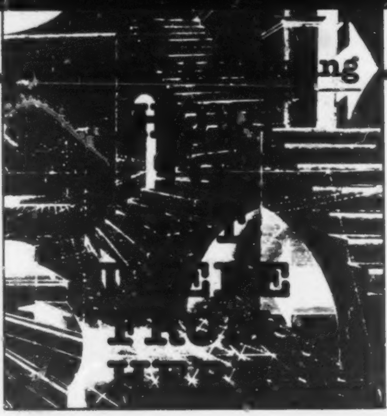
"The objective is to determine whether prices realistically reflect the most productive use of the three components," says Welch.

Industrial marketers, too, can tap data bases oriented to their special needs. A typical vendor is Economic Information Systems (EIS), New York City, which supplies the manufacturing data for *Sales & Marketing Management's* annual *Survey of Industrial Purchasing Power.*

Two data bases are maintained by EIS. One contains information, including sales volume, on 500,000 business establishments with 20 or more employees. A second one, using input-output analysis, shows what individual industries sell to, and buy from, each other, and traces this to the establishment level.

Thomas W. White, director of marketing consulting, Rexnord, Inc., Milwaukee, WI, notes that "what sets EIS apart from other data base suppliers is that their shipments figures help you identify the value of prospective customers as well as relate one customer to another in terms of your product potential. If you go by the 80–20 rule—that 80% of your business comes from 20% of your customers—the EIS data provides a valuable pointer on which 20% you want to go after."

As on-line systems make it increasingly easier for the marketer to use computers, and syndicated data bases offer him more customized information, marketing planning will take on a new orientation. The function will be pushed further down in the organization and out into the field so that, eventually, territory managers will do their own market planning. Ultimately, it will be—everyone a planner.



How to discover what your salespeople are planning (and doing)

By JAMES P. ALAMPI
Vice President, International Group
VWR Scientific, Inc.

All praise to salespeople, but dare you trust their forecasts to be (1) accurate in their overall numbers and (2) in tune with your objectives, especially profitability?

One method of analyzing the forecast increase in sales and gross margin in a sales representative's territory is to break down the planned gross margin increase into its contributing factors to be sure that profitability is not being sacrificed for raw sales increases. Figure 1 is a simple table to enable analysis of forecast gross margin increases by contributing factors.

The first requirement, of course, is to estimate what the final year-end sales and gross margin will be:

Estimated 1981 final sales	**$100,000**
Estimated 1981 gross margin	**25,000**
Estimated 1981 G.M. %	**25.0%**

$$\text{(Where G.M. \%} = \frac{\text{Gross Margin)}}{\text{Sales}}$$

The next step is to forecast for the coming year:

Forecast 1982 sales	**$120,000**
Forecast 1982 gross margin	**28,000**
Forecast 1982 G.M. %	**23.3%**

With these six numbers, it is possible to determine where the forecast increase in a territory's gross margin will come from.

Simplistically, the three primary factors which influence gross margin dollar production are price increases, changes in the gross margin percentage, and changes in the volume of goods sold. Price changes can be factored using economic and management forecasts for the overall impact of price changes during the coming year; thus, if management feels prices will increase 10% during the coming year, if exactly the same number of products in the same mix is sold in 1982 as in 1981, sales and gross margin dollars should be approximately 10% higher.

Gross margin increases can come as a result of selling more high profit products (changing the mix), or reducing discounts on the products currently being sold. In this case, an assumption is made (for comparison) that if the 1982 sales forecast was at the 1981 gross margin level, there would be increased gross margin due to the increase in sales dollars.

Volume changes are calculated to be the sole remaining influence by subtracting the changes from price increases and gross margin percentage increases from the total forecast gross margin increase.

First, calculate the total sales and gross margin increases:

Total Forecast Sales Increase = 1982 Forecast Sales − Estimated 1981 Final Sales
$120,000 − $100,000 = $20,000

Total Forecast Gross Margin Increase = 1982 Forecast Gross Margin − Estimated 1981 Final Gross Margin
$28,000 − $25,000 = $3,000

James Alampi is a former district manager at VWR Scientific, Inc. In 1979, he was the top winner of S&MM's Survey of Buying Power Contest, in which "Survey" users were asked to describe how they use its marketing data in their businesses.

Figure 1

Factors affecting Gross Margin increase/decrease	*Amount of increase/decrease in:*		*% of Total Gross Margin change due to:*
	(1) Sales $	*(2) G.M. $*	
Price changes			
Gross margin % changes			
Volume changes			
Total change			

Estimated current year final:
Sales $
Gross margin $
G.M. %

Forecast:
Sales $
Gross margin $
G.M. %

and insert in the appropriate column on the "Total change" line in Figure 1.

Next, projecting 10% price increases, calculate what the 1982 sales and gross margin increase would be with no other influencing factors:

Estimated 1981 final sales
$100,000 × 10% = $10,000
Estimated 1981 final gross margin
$25,000 × 10% = $2,500

and insert in the appropriate column on the "Price changes" line. The third column is merely $2,500 divided by the total gross margin change ($3,000) or 83.3%.

Calculate the influence from any change in the G.M. %:

Forecast 1982 Gross Margin − (Forecast 1982 Sales at Estimated 1981 Final G.M. %)
$28,000 − ($120,000 × 25.0%)
$28,000 − $30,000 = ($2,000)

The impact of reducing the gross margin percentage from 25.0% in 1981 to 23.3% in 1982 will be a net *decrease* of $2,000 G.M. dollars. Insert in the appropriate column in the "Gross margin % change" line. Again the third column is ($2,000) divided by the total gross margin change ($3,000) or (66.7%).

Finally, subtract the price change and gross margin percentage change line numbers from the totals to derive the volume change line. A completed table, using the sales and other figures from the example just given, is shown at the top of the next column.

	Amount of increase (decrease) in:		
	(1) Sales $	*(2) G.M. $*	*% of Total G.M. change due to:*
Price changes (10%)	**$10,000**	**$2,500**	**83.3**
Gross margin % changes	**−2,000**	**−2,000**	**−66.7**
Volume changes	**12,000**	**2,500**	**83.3**
Total change	**$20,000**	**$3,000**	**100.0**

Thus even with a forecast $20,000 (20%) increase in sales, the overall forecast gross margin increase is only $3,000; $2,500 (83.3%) from price increases, $2,500 (83.3%) from increased volume of products, and erosion of the G.M.% from 25.0% to 23.3% actually *decreases* the overall gross margin by $2,000 (66.7%).

In the next example, a different situation exists:

Estimated 1981 final sales = $200,000
Estimated 1981 gross margin = $ 48,000
Estimated 1981 G.M. % = 24.0%
Forecast 1982 sales = $225,000
Forecast 1982 gross margin = $ 56,250
Forecast 1982 G.M. % = 25.0%

	Amount of increase (decrease) in:		
	(1) Sales $	*(2) G.M. $*	*% of Total G.M. change due to:*
Price changes (10%)	**$20,000**	**$4,800**	**58.2%**
G.M.% changes	**2,250**	**2,250**	**27.3%**
Volume changes	**2,750**	**1,200**	**14.5%**
Total change	**$25,000**	**$8,250**	**100.0%**

Here, the forecast $25,000 sales increase will produce a forecast $8,250 increase in gross margin; of the $8,250, $4,800 (58.2%) comes from price increases, $2,250 (27.3%) from a higher gross margin percentage, and only $1,200 (14.5%) from real increases in volume. In this case, while desirable increases in gross margin have occurred, there may be an unacceptable loss of market share, since little of the increase will come from increased unit volume.

The value of analyzing

A closer examination and analysis may reveal some interesting statistics and problems. Since real growth will contribute less to the gross margin increase than the increase in the gross margin percentage, it may be that this sales representative is planning to concentrate on only historically high profit product lines in the more profitable small accounts, to the exclusion of products selected by management for increased penetration and market share during the coming year.

If this is the case, it would then be appropriate for the sales manager conducting this forecast review to redirect this sales representative's personal marketing plan to lessen the gross margin percentage increase, and increase the real growth. Substituting a forecast 1982 gross margin percentage of 24.5% (for the original 25.0%) might allow the forecast 1982 sales to be higher, and then the entire picture changes:

Estimated 1981 final sales = $200,000
Estimated 1981 final gross margin = $ 48,000
Estimated 1981 final G.M. % = 24.0%
Forecast 1982 sales = $235,000
Forecast 1982 gross margin = $ 57,575
Forecast 1982 G.M. % = 24.5%

The new table would become:

	Amount of increase (decrease) in:		
	(1) Sales $	*(2) G.M. $*	*% of Total G.M. change due to:*
Price changes (@10%)	**$20,000**	**$4,800**	**50.1%**
Gross margin % changes	**1,175**	**1,175**	**12.3%**
Volume changes	**13,825**	**3,600**	**37.6%**
Total change	**35,000**	**9,575**	**100.0%**

This may be more acceptable and consistent with management programs since gross margin percentage is improved by half a percentage point (thereby contributing 12.3% of the total forecast gross margin increase), while at the same time, real growth will contribute 37.6% of the gross margin increase (while obviously putting more units in front of the customer, increasing penetration, share, awareness, etc.).

The overall impact of these well-balanced factors reveals a 17.5% forecast increase in sales ($200,000 to $235,000) with a 19.9% forecast increase in gross margin ($48,000 to $57,575). Additionally, the desirable gross margin increase will not be dependent only on "selling at a higher profit," but will be dependent on all three factors that will be part of the territory marketing plan.

The bottom line, of course, is to achieve a good balance between (1) the influencing factors that are commensurate with the goals of the company and (2) the resources available. A frank discussion of this type of analysis during individual forecasting meetings can be enlightening to both sales personnel and management, and may result in increased awareness of the factors and costs of sales growth on everyone's part.

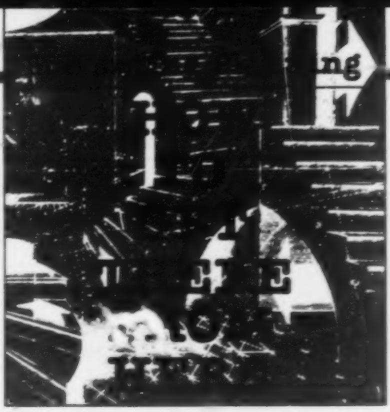
At Com Systems, they bank on the future

As we say, the president plans to lay off a little of his stock as part of the offering. He will get at least $6 a share for his stock for which he (as did other insiders for theirs) paid a whole half a cent a share.

What really sets t[illegible] rospectus apart, however, is a little item listed on page 33 under "Current Liabilities." It reads in full: "Checks drawn against future deposits . . . $86,434."

At the very least, that shows a touching belief in the future on the part of Com Systems. And what an understanding bank.

From Alan Abelson's "Up & Down Wall Street" column in the Nov. 2, 1981 *Barron's*, in which he reports on the present and future of Com Systems, a Van Nuys, CA, marketer of telephone and other communications products.



How they monitor planning at Greer Hydraulics

By LIZ MURPHY
West Coast Editor

He doesn't wear burnished stars on his shoulders but Tom Yormick, marketing director for Greer Hydraulics, City of Commerce, CA, likens his job to that of a general. He has drawn up his battle plans for the next five years but, as in real war, the unexpected has to be anticipated.

"I have very detailed, very dynamic, planning, but I don't have a crystal ball," Yormick says. "I can't tell you what's going to happen with Congress. I can't tell you what the Administration is going to do. I can tell you what they say they are going to do, but I can't say that that's what will happen so I have to have contingency planning.

"It's almost like a war game in business. You're in the ready room, the war room, making your plans, mapping out the company's growth, short term, long term, two years, five years, and you're hoping it will all work out."

Yormick is basing his hope on a just completed, two-in.-thick strategy plan that he spearheaded for his company under the guidance of A.T. Carney, a Chicago business consultant firm.

"Our strategic planning process started about two and a half years ago. A.T. Carney acted as coach, guiding the upper management of Greer Hydraulics and our parent company, Voi-Shan Industries. It guided us to the best system for short-term and long-range planning."

What Greer Hydraulics settled on was P.I.M.S., Profit Impact on Marketing Strategy, a marketing strategy developed 22 years ago by General Electric's advanced business planners. "It took about six months of intensive meetings with Carney to get through the mechanics of understanding the system. Our first goal was a three-year plan, looking at a base year for information purposes. Now we're restudying a five-year strategic plan that we've just completed. The plan is long-range, but it's also very dynamic. It can change at six-month intervals or it can change on a weekly basis, depending upon business and economic conditions." Yormick admits that, although the plan is only 65 days old, it could change by as much as 25%.

Greer Hydraulics, which manufactures and markets precision controls, surge controls, and energy-sparing devices, has eight marketing areas which are pinpointed in Yormick's strategic plan.

"We know how much of the market share of each of our segments we have today and we know where we want to be in five years. I'm not at liberty to say what our market share is in each of our markets but of our three primary markets, in at least two of them, we have a substantial market share, better than 50%." Greer Hydraulics' three major markets are the petroleum, industrial flow, and mobile industries.

Not by marketing alone

Achieving a marketing objective cannot be done by marketing alone, so Greer Hydraulics' strategic planning covers all areas of the company's operations: design, manufacturing, engineering, finance, gross finance, profits and gross profits, and, of course, marketing.

Yormick says, "To make the plan work is going to take an awful lot of work on our part in resource planning and developing, both human and plant."

"We want a greater market, a greater share. How are we going to do that? How are we going to make it happen? Are we going to develop six or eight new products over the next five years? Have we the human resources to do that? Are we going to clone Tom Yormick six times to accomplish this or are we going to hire other people? The plan tells us exactly what resources are going to be required."

Greer Hydraulics considers its "sphere of influence" to be North America, including Mexico, Canada, and an emerging South American mar-

BUY A BOAT?
KACZMAREK

"WHAT ARE YOU GOING TO DO ABOUT THE RAIN?"

© Copyright, Sales & Marketing Management

ket. The company also has licensees in Europe and Japan.

"When we built this five-year strategy plan it took us four months after our initial six months of learning to understand the mechanics of it. Probably 75% of my time and a lot of other people's time was directed toward this project. It was spearheaded by marketing because it addresses gaining market share and improving the profits of the company.

"We look at growth rate very closely in our study. I could tell you by each Product Marketing Segment, what our 1981 sales are forecast at and what we anticipate, plan, and forecast for sales for 1986 and how to change the mix of individual PMSs for increased sales. In certain PMSs, we have 100% capacity. In others we have a percentage of that capacity. Today we have a certain mix. In 1986 the mix is going to change."

Yormick believes that the mixed product nature of his company, and the way the plan was devised, make the plan workable. "The plan is based on certain assumptions—you must have assumptions if you're going to plan. We make these assumptions and we try to base them on the best information available. Without certain economic and political assumptions, the plan is worthless. If they change, the plan changes.

"In the type of business we're in, there are many, many factors that impact on us. Some of them we do control and some of them we do not control. If the interest rate were to drop four points tomorrow, we don't control that but it would certainly impact our business tremendously.

"If you're in the petroleum business, OPEC is an impact, as is U.S. government policy on energy, so we address each one of these issues in our plan. We ask ourselves, What can affect the market either positively or negatively? What can we do to optimize the opportunities? What can we do to counter the threats? And we try to anticipate what responses these factors will evoke in our competitors. We then try to figure out a response to *their* thrust to overcome *our* strategy."

Yormick considers the company's mix as crucial to the strategy plan's success. "We're fortunate that we're not tied to any one single industry. The energy marketplace is a far cry from the mobile marketplace, so, hopefully, one is up when one is down."

Yormick points out that the market can be forced. "A company can actually take a stagnant market and impact the market to make it grow. Let's look at the mobile market, which breaks down into several areas, agriculture, material handling, construction and mining equipment, over-the-road vehicles, trucks, and automobiles. The market growth of the mobile area we're looking at right now is fantastic. We can impact that market by introducing innovative products with new applications that haven't even been looked at before by that market, to save fuel, conserve energy, double and triple redundancy of safety in vehicles. If we do this it's going to make that market really grow."

Despite all the variables Yormick has confidence in the success of his plan. "These are very quantitative goals that are measurable. There are timetables. Some of our goals are extremely optimistic and have to be revised from time to time. We occasionally get very bullish and set unrealistic goals, but we have a dynamic plan. It can be revised and we do revise it. If things are a little too bullish then we bring them in or extend them out, and some of our goals we accomplish in half the time we thought we would," Yormick says.

"There's no guarantee that everything's going to come to pass. If everything happens in the five-year plan it will be the first time ever in the history of man that that has happened. The plan has been written on all the 'givens,' all the assumptions, and all the things that can impact it, the business situation, the political situation, the economic situation. Things change and the plan

JAUNDICED EYE

Ah, to have a plan, now that decision time is here

A hundred years ago, when I was in the advertising agency business, most of my clients were small and were first-time advertisers. I sold them on using the services of my agency because I offered marketing counsel as an integral part of effective advertising.

"First, we must know your marketing objectives," I told a brand-new client who manufactured athletic shoes.

"I thought that's what you were going to tell me, Jim," he said, as he hesitated signing my contract.

"Well, sure, Mike," I assured him, "but naturally I'm going to have to get your input. After all, you know why you went into this business and obviously you know more about the shoe business than I do. I know about marketing."

"O.K.," he said, leaning back in his swivel chair. "To give you a start, I went into the shoe business to make money. Does that help you?"

I smiled patiently. He didn't.

"How many pairs of shoes do you want to sell? We call that *sales forecasting*," I said.

"All I can make," he replied without hesitation. Because he was quite positive on that point, I felt I had a start.

"How many pairs is that?"

"Ten thousand gross."

"How many are you making now?"

"Two thousand gross."

"Do you have the plant capacity for the 10,000?"

"No," he said. "I'd have to get another plant or two."

"What about quality? How do you see your product quality-wise against the competition? We call that *product positioning* in the advertising business. But if I'm getting too technical, just say so." I poised my pencil for his answer.

"Best value," he replied.

"I see," I said and nodded knowingly, not having the remotest idea what to write on my note pad. I continued with the plan.

"What's the market?"

"The United States and overseas."

"Yes, but that's *where*. What about *who*?"

"Athletes!" he said. Because he was clearly becoming impatient, I decided to speed things up.

"What about seasons of the year? You know, different sports during different seasons?"

He put down the pen—without having signed the contract.

"Maybe baseball shoes in the spring, football shoes in the fall, and, maybe, just maybe, ski boots in the winter. Tell me, Jim, am I going too fast for you? I notice you're not taking notes anymore."

"No," I assured him with a confident smile. "I think I have enough here. Let me go back to my office, noodle this information around with our marketing people, and get back to you with a written plan."

Back at the office I met with our Marketing Plans Board. It was a short meeting.

"Jim, I think *you* need a marketing plan describing the kind of *clients* we want," the chairman of the Plans Board told me.

"What kind of clients *do* we want?" I asked, dejected.

"All we can get!" he shouted at me.

"How big?" I got out my note pad again.

"*Very* big," was his answer.

"Where's the market?" I asked, dreading the answer.

"The United States and overseas."

"Isn't that a little vague?" I wanted to know.

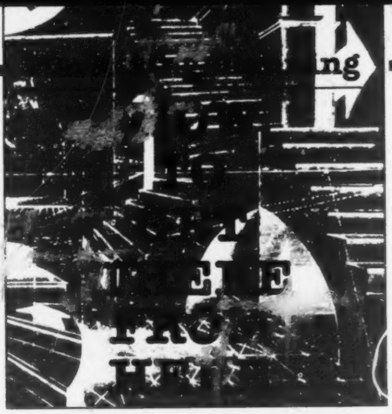
"Jim," he said with a tight smile, "you're getting the message."

By Jim Lavenson

changes with it. Certain market areas have changed in the last 60 days which means that we have to change strategies."

He adds, "Many large companies hire a vice president of strategic planning, and he has a staff anywhere from two to eight people. They address the company's strategic plan daily. In a medium-size company such as Greer Hydraulics, we just cannot afford that luxury. So we do it with a consultant twice a year, once a year comprehensively, which takes, as the plan is now written, three to four weeks of evaluation. Every six months we spend two to three days evaluating and changing as necessary."

It's necessary insurance, Yormick says. "We misread U.S. energy policies two years ago, as well as the reaction to certain OPEC moves. We were too conservative in one area and bullish in another. Fortunately it was an error we could recover from fairly easily. Did it cost the company money? Yes. A lot of money? No. Had we read the situation correctly, our marketing situation would have been in better condition sooner. We do make errors."



Marketing planning produces long-term goals; the marketing plan, usually written for a one-year period only, is a specific guide for eventually attaining those goals. For companies that do not do strategic marketing planning, it may be the only blueprint available. Here, in an excerpt from his book, *How to Prepare and Use Marketing Plans for Profits*, H.W. Goetsch, president, Marketing For Profit, Inc., provides the questions you'll need to answer in creating a marketing plan. To order copies of the Goetsch book, see the Bibliography.

Planning the marketing plan

I. COMMITMENT PHASE

1. Is the chief executive committed to marketing planning, and is planning ingrained with all top executives in the organization?
2. Are plans prepared with participation of key functional managers, or are they dictated?
3. Do we really implement a marketing plan, measure its performance against the plan, and adjust for deviation or necessary changes?
4. Do we have a coordinated marketing program or an isolated sales department?
5. Are we letting budgets replace management decisions?
6. Do our marketing managers understand and use our computer capabilities and are we using modern tools—computers and marketing research?
7. Are all marketing functions under the direction of one top-level executive?

II. AUDIT PHASE

MARKETS—Analyze where products are sold

1. What is the market size?
2. How is it segmented?
3. How are sales currently segmented?
4. Should different segments be developed?
5. What is our response to geographic trends?

SALES HISTORY—Analyze previous results

1. How do sales break down within the product or service?
2. Are growth and profit trends reflected?
3. Which territories do not yield potential?
4. Are there abnormal cycles or seasonalities?
5. Do sales match previous forecasts?

PRODUCTS—Objectively appraise the product

1. Is the product or service free from deadwood?
2. What is the effect of user demands or trends?
3. Are packaging and branding acceptable?
4. Are there features or benefits to exploit?
5. Where are the voids?
6. Does this plan period include new product introductions?
7. Is the level of customer service adequate?
8. How is the product viewed by customers?

CUSTOMER—Precisely identify the customer

1. What is the profile of present and potential user (age, sex, income, attitudes, education, occupation, and lifestyle)?
2. Are customers younger or older, on the average, than those of our competitors?
3. Are there geographic aspects and changes?
4. What is the frequency and quantity of customer use?
5. Why do people purchase the product/service and what motivates their choice?
6. Who makes buying decisions?

COMPETITION—Identify their influence

1. Who are the principal competitors?
2. What are their market shares?
3. Where do they seem to be headed?
4. What are their strengths and weaknesses?
5. Is the field easily entered?
6. Is the market dominated?

PRICING—Study product pricing for growth and profitability

1. What are the objectives of current policy?
2. Are price limitations inherent in the product or marketplace?
3. Does price compare with competition in similar levels of quality?
4. Is the price list understandable and current?
5. How are prices set?
6. Does internal cost information show profitability of each product?

SELLING CHANNELS—Identify strength and weakness in the mode used to reach customers

1. Does the system offer best access to target markets?
2. What are sales objectives for those markets?
3. Is performance measured against potential?
4. Do product characteristics require special channels?
5. Are selling expenses proportionate to results

and potentials within markets and territories?
6. What are the deficiencies in selection, training, performance, motivation or compensation?
7. Is there objective control of selling activity?

DELIVERY AND INVENTORY—Evaluate physical performance
1. Are adequate inventories kept in the right mix?
2. Is inventory turnover acceptable?
3. Do orders receive efficient processing?
4. Are shipping schedules and promises kept?
5. How does performance compare with competition?
6. Are forecasts for production planning acceptable?

ADVERTISING—Critically examine media's effectiveness
1. What are the objectives of the program?
2. Is advertising coordinated with the marketing plan?
3. How is effectiveness measured?
4. Is the agency's effectiveness objectively measured?
5. How is advertising integrated with promotion and selling?
6. What are the criteria for agency selection?

PROMOTION—Audit activities designed to induce sales
1. Does the promotion support a marketing objective?
2. Was it carefully budgeted?
3. Is it integrated with personal selling and advertising?
4. How is it measured for results?

III. PLAN PHASE

DEFINE ASSUMPTIONS—Estimate environmental factors
1. What are the probable economic conditions?
2. Will there be new technology or competition?
3. How will governmental or regulatory agencies affect the plan?
4. Can competitive innovations be anticipated?
5. Are customer or market changes perceived?
6. Do capabilities (capital, people, facilities, selling channels) exist to achieve the goals?

SET GOALS—Expressed in quantitative terms, state the end sales and profit result to be achieved during the plan period
1. Is the goal expressed as a sales and profit target?
2. Does it represent realistic attainment, neither too high nor too low?
3. Has there been participation in structuring the goal?

ESTABLISH OBJECTIVES—Quantify results necessary for sales goal achievement
1. Does the objective correct weakness, utilize strength or exploit opportunity?
2. Is it specific?
3. Can it be accomplished in the plan period?
4. Will it be consistent with the best interests of the company?
5. Is it compatible with all other objectives?

DETERMINE STRATEGIES—Blend all elements of the marketing mix into action plans to achieve planning objectives
1. Is strategy consistent with objectives?
2. Does it respond to the current marketing environment?
3. Are necessary resources available?
4. What is the time frame for accomplishment?
5. Is there a high-risk factor which could jeopardize objectives?
6. Were alternate strategies considered?

IV. IMPLEMENT PHASE

ASSIGN TASKS—Formulate programs fulfilling strategies
1. Is the task properly assigned?
2. Was it understood?
3. Are tasks given priority according to urgency?
4. Were completion deadlines established?

DEVELOP SALES FORECASTS—Convert the sales goal into production and service estimates
1. Are cyclical/seasonal patterns changing?
2. Does the economic climate differ from beginning appraisals?
3. Have irregular differences occurred (special promotions, price changes, unexpected competition, work stoppage) to alter the forecast?

SET PLANS AND QUOTAS—Allocate proportional units of the forecast
1. Is it realistic with respect to territory or market potential?
2. Does it match the recipient's potential?
3. How does it compare with past performance?
4. Can it be supported with necessary resources?
5. Does it convey all elements of the strategy?
6. Is it prepared and communicated before the plan period starts?

PREPARE THE BUDGETS—Quantify expenditures required to achieve the goal
1. Does the potential profit support the request?
2. Can the same result be achieved without additional funds?
3. Are the cost estimates realistic?
4. Will alternates achieve the same results?
5. Does the budget cover all of the mix?

V. CONTROL PHASE

MANAGE—Measure performance against plan and adjust for deviation
1. Why are expenditures running ahead (or behind) of plan?
2. Is the mix (promotion, people, price, place) wrong?
3. Should planning assumptions be changed?
4. Does the forecast require adjustment?
5. Must more money be spent?

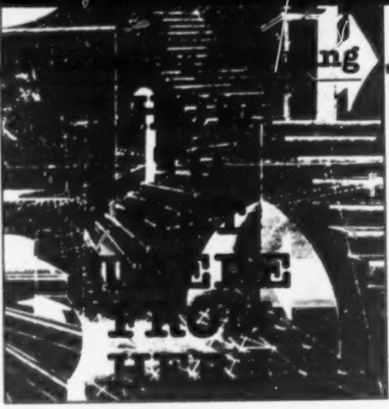


Figure 1

SAMPLE MARKETING PLANNING MODEL
TO ESTIMATE TOTAL MARKET SIZE

DEMAND FOR
LOADING PRODUCT A = RAILROAD TON MILES × CARLOAD SIZE FACTOR ×
TRIP LENGTH FACTOR +
TRUCK TONS SHIPPED × TRUCK SIZE FACTOR

How Signode Corp. does it, step-by-step

By BERNARD A. RAUSCH
Director, Business Research and Economic Analysis
Signode Corp.

We all know that planning is catching on. We know there are ways to make plans well-founded, but not foolproof, and we are working to develop swift methods of recourse in case we've made a planning error.

Making strategic allowances for projected change can be quite different depending upon the type of activity being considered. First, how can we make allowance for projected change in existing business situations? Second, how can we make the scanning/planning linkage for development activities? Here's how, taking existing business first:

Business models. The forecast of key factors known to have been important indicators of past performance must be incorporated. For example, in many companies an industrial production index forecast for lumber, or a forecast of the future population of 30–50-year-old working females, or a forecast of the number of multi-unit housing starts, or a long-term forecast of the number of yearly miles each American car is likely to travel between now and 1985, or combinations of these, are placed into the model and a feeling for the future is obtained.

The existence of the model almost guarantees that salient factors must be sought out and used. Figure 1 is a model which relates sales of antidamage transportation products such as air bags and void filler to a number of important variables. Data in the equation refer to the general level of economic activity (railcar loadings and truck freight miles) to predict overall sales of all similar products in the marketplace. Models can be used to predict penetration of the overall market but to do this, work must be done to understand how our price, advertising, and expended sales time correlate with sales (Fig. 2). However, care must be taken to personalize planning and to encourage imagination and creativity in developing new strategies. (Models are useful predictors but they don't create action plans. People, using models as an input, create winning programs.)

Planning guidelines. The discipline of a formal guide can help insure that important factors are considered. It doesn't have to be a straitjacket but simply a check list or guideline. Couple the format with direction given by the business's managers, who are trained to recognize the need to incorporate projections for change, and you have a strong driving force for the linkage between externals and your business. Figure 3 shows how one company set down its guidelines for planning for existing businesses. Both the Critical Planning Assumptions and the Ten-Year Goals for the Division require being plugged into the outside world. Figure 4 offers some examples of this.

Trained planning assistance. The presence of a professional, who understands the general planning concerns at the business level, is of great value in assuring that linkages are made between the functions within a business, between the business and the division, between the business and the corporate staff, and between the business and the world outside (Fig. 5). When the strategic business unit is big enough for the planner to work on planning issues on a full-time basis the presence of an on-board planner protects against fits and starts and permits education, liaison assistance, and regular monitoring to be done. If it is not reasonable to use full-time effort at the strategic-business-unit level, a planner or group at the division level can serve the same purpose.

Group planning meeting. These are well-structured meetings in which the gamut of issues both external and internal is explored frankly and completely (Fig. 6). An agenda is prepared that makes it a point to touch on worldwide subjects and assign responsibility for exploring the relationship

The above is an excerpt from an address, given at the Conference Board's 1981 Marketing Conference, by Bernard Rausch.

© The Conference Board, Inc.

Figure 2

SAMPLE MARKETING PLANNING MODEL TO ESTIMATE PENETRATION VS. COMPETITION

ABC's SALES OF
LOADING PRODUCT A = WEIGHTED DIRECT SELLING TIME FUNCTION +
WEIGHTED ADVERTISING/SALES PROMOTION FUNCTION +
WEIGHTED PRICE-VALUE FUNCTION +
WEIGHTED DISTRIBUTION POWER FUNCTION

Figure 3

STRATEGIC PLAN DIVISIONAL SUMMARY

- HIGHLIGHTS OF CHANGES FROM PRIOR PLAN
- CRITICAL PLANNING ASSUMPTIONS
- TEN-YEAR GOALS FOR THE DIVISION
- FIVE-YEAR OPERATING OBJECTIVES:
  SALES, INCOME, RETURN ON MANAGED ASSETS
- DIVISION STRATEGY FOR REACHING OBJECTIVES:
  ACQUISITION
  NEW PRODUCT DEVELOPMENT
  INTERNAL R&D
  ORGANIZATIONAL CHANGE NOT SHOWN IN SBU STRATEGY -

Figure 4

EXAMPLES OF WHERE SCANNING/PLANNING LINKAGES ARE NEEDED

CRITICAL PLANNING ASSUMPTIONS
- COMPETITOR D EXISTS
- FORECAST CURRENCY-EXCHANGE RATES
- SHORTAGE OF RAW MATERIAL WILL RESULT IN SHARPLY HIGHER PRICES

TEN-YEAR DIVISIONAL GOALS
- VERTICALLY INTEGRATE TO OWN RAW MATERIAL SOURCE
- USE STATE-OF-THE-ART TECHNOLOGY TO REDUCE PROCESS COSTS
- EVALUATE CAREFULLY RISKS OF ENTRY BEFORE EXPANDING ABROAD

Figure 5

THE LIAISON ROLE OF THE PLANNER

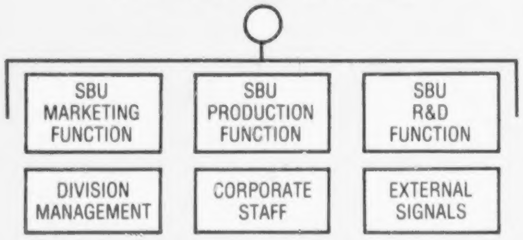


Figure 6

GROUP PLANNING MEETINGS

WHAT IS OUR REAL SHARE?
SHOULD WE MARKET IN ELDECEVIA?
CAN LASERS AFFECT OUR BUSINESS?
HOW DO WE SEGMENT?
WHEN WILL INTEREST RATES DROP?

Figure 7

DEVELOPMENT OF BUSINESS SCENARIOS

STEPS	EXAMPLES
1. IDENTIFY EXTERNAL INFLUENCE FACTORS	SOCIETAL, POLITICAL, MACROECONOMICS
2. DESCRIBE COMPONENTS OF FACTORS	WORK ATTITUDES, REGULATIONS, INFLATION
3. BUILD SET OF SCENARIOS	LIKELY, OPTIMISTIC, PESSIMISTIC
4. DEVELOP A STRATEGY FOR EACH SCENARIO	GROW WITH THE MARKET, EXPAND SHARE

Figure 8

EXAMPLE OF CONTINGENCY PLANS/ISSUES

DISCUSS STEPS TO BE TAKEN UNDER THE FOLLOWING CONDITIONS:
1. LABOR STRIKE
2. RAPID FALL-OFF IN PRODUCT DEMAND
3. RAPID INCREASE IN PRODUCT DEMAND
4. STRONG ATTACK BY COMPETITION ON MARKET SHARE

Figure 9

A CONTINGENCY PLANNING MODEL BY STEPS

1. IDENTIFY THE MAJOR CONTINGENT EVENTS, INTERNAL AND EXTERNAL, AND LIST PROBABILITY OF OCCURRENCE.
2. ESTABLISH AND TRACK WARNING INDICATORS.
3. DEVELOP STRATEGIES AND TACTICS THAT WILL TAKE ADVANTAGE OF THE OPPORTUNITY OR MINIMIZE THE THREAT.

between these issues and the business.

At these meetings, problems are identified and a consensus is obtained on the need for further clarification. Some of the crucial issues that may require digging into more deeply might include a better understanding of competition and our real share of the market, the danger of marketing in "Country D," the problem of government intervention or control, and the effect of a new technology. The American Management Assns. team planning system has been used successfully to cover all bases in a group dynamics framework.

Scenario building. The technique of writing scenarios describing possible situations automatically requires thinking about outside factors and their effect on your business. Multiple scenarios describing alternative futures are usually included in carrying out this technique. Forcing some thinking about how the future can vary is a sure way to explore scanning/planning issues. The three-scenario technique, in which most likely, optimistic, and pessimistic scenarios are written, is very popular. Figure 7 offers some steps to be used in developing these scenarios. Note that the external view is a key to writing the scenario.

Contingency planning. This technique attempts to produce surprise-free plans. Strictly defined, it is the advance preparation of a strategy to cope with a low-probability event that could have a significant effect on the strength of the business. A popular approach: contingency plans are required for four conditions (Fig. 8). A model of the contingency planning process shows very clearly that external events must be dealt with to do good contingency planning (Fig. 9).

We have just described ways of dealing with

Figure 10

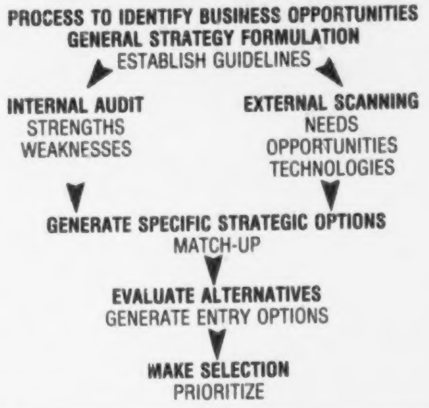

PROCESS TO IDENTIFY BUSINESS OPPORTUNITIES
GENERAL STRATEGY FORMULATION
ESTABLISH GUIDELINES
INTERNAL AUDIT
STRENGTHS
WEAKNESSES
EXTERNAL SCANNING
NEEDS
OPPORTUNITIES
TECHNOLOGIES
GENERATE SPECIFIC STRATEGIC OPTIONS
MATCH-UP
EVALUATE ALTERNATIVES
GENERATE ENTRY OPTIONS
MAKE SELECTION
PRIORITIZE

Figure 11

SIGNODE VALUE MATRIX

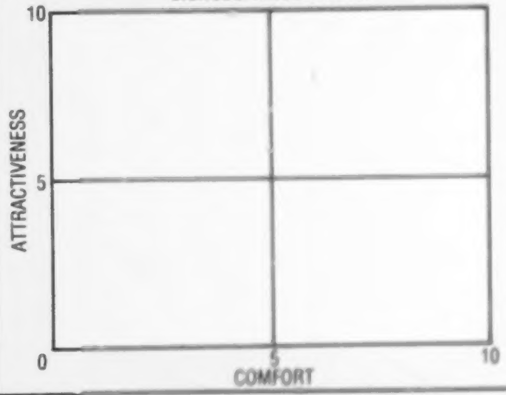

10
5
0
ATTRACTIVENESS
5
10
COMFORT

Figure 12

VALUE MATRIX—LASER MARKING
COMFORT CRITERIA

WEIGHT	FACTOR	RATING	VALUE	SCORE
0.2	FAMILIAR TECHNOLOGY	NO	1	0.2
0.2	FAMILIAR MARKETS	YES	10	2.0
0.2	FAMILIAR MFG. TECHNIQUES	SOMEWHAT	5	1.0
0.2	DEVICE AND CONSUMABLE	NO	1	0.2
0.2	LOW RATE OF TECHNOLOGY CHANGE	SOMEWHAT	5	1.0
			TOTAL	4.4

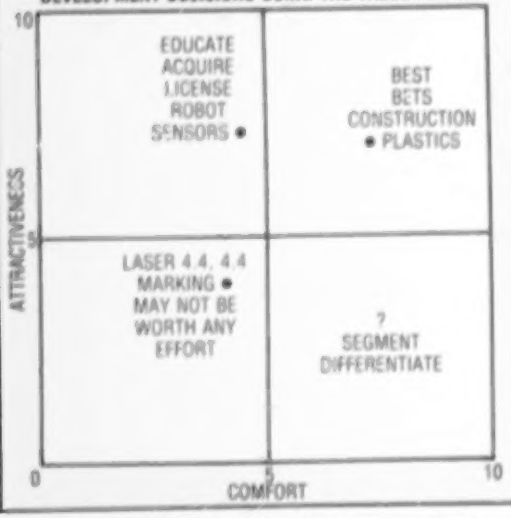
Figure 13

VALUE MATRIX—LASER MARKING
ATTRACTIVENESS CRITERIA

WEIGHT		RATING	VALUE	SCORE
0.2	HIGH ESTIMATED IRR, %	MODERATE	5	1.0
0.2	HIGH REAL MARKET GROWTH	YES	10	2.0
0.2	COMPETITIVE INTENSITY	MODERATE	5	1.0
0.2	PROPRIETARY POSITION POSSIBLE?	NO	1	0.2
0.2	POTENTIAL TO CONTRIBUTE MORE THAN 20% OF 1990 EARNINGS?	NO	1	0.2
			TOTAL	4.4

Figure 14

DEVELOPMENT DECISIONS USING THE VALUE MATRIX


10
5
0
ATTRACTIVENESS
5
10
COMFORT
EDUCATE
ACQUIRE
LICENSE
ROBOT
SENSORS
BEST
BETS
CONSTRUCTION
PLASTICS
LASER 4.4, 4.4
MARKING
MAY NOT BE
WORTH ANY
EFFORT
?
SEGMENT
DIFFERENTIATE

external-internal linkages for existing businesses. Now let's look at one technique that does the same thing for development operations. Identifying new business opportunities can be divided into six basic steps, as shown in Fig. 10.

Scanning for external needs, opportunities, and technologies is a crucial part of this process. How to relate outside factors to internal planning for new development has been a never-ending quest. One way to do it is to compare external factors with internal strengths and the company's development guidelines to determine whether a match-up is possible.

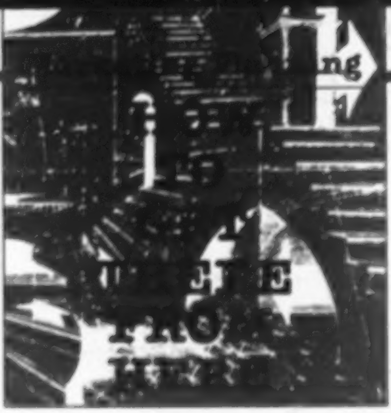
One device which we have found useful is the Signode Value Matrix which is shown in Fig. 11. This diagram permits us to position the most attractive potential opportunities in the matrix by analyzing their potential in the markets and their ability to be understood and managed by our staff of corporate executives.

Figure 12 shows a set of factors which might measure the degree of "comfort" that a group of managers feels when it evaluates a "candidate"—in this instance laser marking. The example shows how the value score is calculated. These factors are subjective and will vary between companies and even within a company or division or between strategic business units. If agreement on the factors that make up the feeling of "comfort" can be achieved this technique can be useful to eliminate some of the hundreds of candidates that are looked at yearly. A perfectly "comfortable" candidate would score a 10.

Figure 13 shows one set of factors that might measure the opportunity's attractiveness. Market growth, competitive intensity, financial "goodness," and patent position are shown in this set, again, a perfect effectiveness score would be 10.

Looking at the value matrix (Fig. 14), it can be noted that the upper right-hand quadrant is the area that signals a high degree of desirability. This technique puts measures of internal comfort together with externally-arrived-at attractiveness criteria. The value matrix is one way to insure linkage in the new product development area.

All is not bleak. If you understand that good planning requires good linkage and that good linkage needs to be applied by marketers of creativity and vision, marketing planning will be more productive and effective. S&M



Using S&MM's Surveys to define tomorrow today

As marketers plan, especially in such areas as establishing precise objectives, devising a marketing strategy, and deploying the sales force, they will find that the *1981 Survey of Buying Power* contains essential information that is not available elsewhere.

Two *Survey* features, the Buying Power Index (BPI) and Effective Buying Income (EBI), are often useful in that they show how actual patterns contradict what seems apparent. For instance, population decline does not necessarily indicate a market decline. A case in point is the Northeast, where population has declined, but where household buying power is still substantially greater ($3,000–$5,000 per year per household) than in the Sunbelt, where population is growing. British Airways, for example, can use this and other data from the *Survey* to determine just when, and how many, of its people to move to the Sunbelt, says John Power, the airline's market analysis manager, U.S.A.

Locate test markets

In sales analysis, the *Survey* is extremely useful. "The BPI is a great source of information and knowledge for our company," says John Flood, assistant vice president, sales and marketing, Pennsylvania Dutch Co., a Mount Holly Springs, PA, confectioner. "It lets us see where we stand in the spectrum of U.S. sales."

George W. Matson, senior director of sales and merchandising, Clairol, says that "the *Survey* is one of the most important tools we use to try to determine where to test market our items." His company recently used the 1980 *Survey* prior to deciding where to test market a new home-permanent product, but using the *Survey* that way isn't unusual. "Because we have more than 350 items, we're always test marketing something somewhere," Matson adds.

Clairol was able to locate the exact market it wanted—a market with enough women over 35 and households with incomes of between $10,000 and $25,000 a year. Clairol found those characteristics in the Cleveland market, which includes Cleveland, Pittsburgh, and Buffalo, NY. After determining the EBI and the BPI to confirm that consumers in that market had sufficient disposable income, Clairol decided to proceed with testing.

Establish sales potential

When deregulation of the airline industry suggested to British Airways that it expand service in the U.S., it also found a need for the *Survey*. "We had to determine the metropolitan areas that held the most potential for our service," Power says. "Because you have to be flexible and be able to react quickly to survive in this industry today, we have to continually update our research. The *Survey*, along with other data that we use, enables us to pinpoint the metro areas where we want to operate by giving us population and demographic breakdowns. It enables us to forecast remarkably well."

By combining *Survey* information with government statistics to determine the number of passport holders in various markets, Power realized that Seattle and New Orleans held more promise for British Airways than Pittsburgh and Cleveland. Power says that "The *Survey* gives us the three pieces of information that we need to combine with our other data and that show us where we want to be: population, household income groups, and average household income."

Figures showing retail sales by store group help Sandra Betner, national sales analyst, Elizabeth Arden, New York City, in setting sales strategy.

"We set up a computer report for our sales along the same lines as the *Survey* is set up—county by county," she says. The *Survey* informs her specifically of general merchandise group and drug store sales, the categories in which most Elizabeth Arden products are sold.

Betner describes a procedure for using the *Survey*, taking Anniston, AL, the first county listed, as an example. "Our computer gives me the accounts we have in Anniston, broken down by department [general merchandise] and drug stores, and what our total sales were in each," she says. "I then get a total sales figure for that market and figure what percentage it was of our national sales. When I compare that to the percentage of the total U.S. market that Anniston represents, I get what we call our 'relative strength' figure. This is what we're really looking for." Betner then repeats this calculation for each market.

"The *Survey* is the only outside data we use," Betner says. "Without it, all we'd really have to use in planning the coming year is this year's sales vs. last year's."

Numerous companies have found that the *Survey* is also a valuable tool in acertaining sales territory potential, market analysis, and allocation of media spending. Both Clairol and British Airways use it to determine how best to deploy a sales force by monitoring population shifts and changes in buying patterns. "Our objective is to keep our cost-of-sale-as-percent-of-sale constant," Clairol's Matson says. "We have as large a sales force as we want, but where we want them is often changing."

The sales executive can use S&MM's five-year metropolitan market projections to ascertain what will happen to local markets in that period. He can base his planning on the metro area projections in several ways. Focussing on the markets with the biggest percent change for 1980–85 facilitates positioning in the fastest-growing markets, markets that will require additional sales personnel.

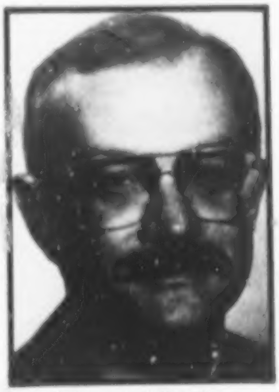
Markets that will grow less than the 5.5% anticipated for the total U.S. can be identified. This allows the sales executive to avoid overspending in markets with a diminishing share of the U.S. market.

It's possible to see that 4 of the big 10 markets are likely to lose population: New York City, down 3.0%; Philadelphia, down 1.0%; and Detroit and Boston, each down 0.5%. Better projections are available as to where to redeploy a sales force in the future, thus allowing concentration on those markets where additional personnel can exploit a rising sales potential.

The *Survey* provides the Average Effective Buying Income Per Household for each market for the years 1980 and 1985. By comparing these two figures, the sales executive can calculate percent change between them, and can thus determine which markets will achieve the fastest growth in relative affluence. Different markets can then be compared on a more objective basis, establishing their relative appeal.

The third element of the *Survey*'s metro projections is retail sales. Using these statistics, the marketer can locate local markets that will be increasingly important in his future strategy.

Security Pacific researches the future



'Futurist' Koehn

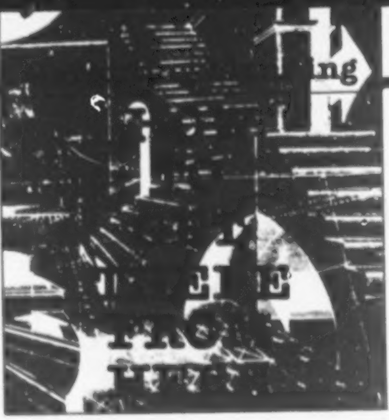
Recent developments in financial markets—regulatory changes and corporate mergers, especially—are bringing changes to the U.S. banking industry. Historically the sleepy repositories for everyman's money, now banks are forced to compete for funds with other financial institutions. Because of heavy regulation in the past that maintained the status quo, banks are belatedly defining systems for long-term planning. Few bank marketers are able to ascertain in relevant detail what their markets will look like in five years, or how to address them.

An exception is Security Pacific Bank, Los Angeles. It has created a Futures Research Div., where Hank Koehn is vice president and director. His goal: "to create a futures attitude in the bank." His division takes the view that things are not going to be the same in the future. "We monitor the world for signals of change," Koehn says. Thus he tries to anticipate the direction of financial markets, and in so doing, keep a future-oriented "mindset" alive throughout the bank.

Planning is generally done by each line division (International Banking, for example), whose top executives meet once a year for a few days. In addition to the "resources" they bring with them—their knowledge of the industry and experience—they work at the meeting with a "data package," studies of important social, environmental, and technical issues that are likely to have an impact on the bank in the coming five years. A key element in the package is input from observers of government affairs, whose job it is to anticipate regulatory and legislative changes.

The Futures Research Div. helps to put together the data package. It also is responsible for an even longer-term view. It's not unlikely to consider 10 year implications of demographic changes, or to create scenarios of 20 years hence. A recent scenario had to do with the increasing banking activity of senior citizens, enabling the bank to prepare appropriate adjustments in its operations.

A Strategic Planning Div., under vice president Terry Perucca, is responsible less for actual planning than for making sure that plans within various divisions are in concert, and that these plans "fulfill goals and objectives of Security Pacific," Koehn says.



Inside the information centers

By GERSON GOODMAN

"Our annual plan is absolutely vital to the business," says National Distillers & Chemical's Joseph F. Pilaro. Now director of the firm's U.S. Industrial Chemicals Co., Pilaro was central to the division's planning function before moving up to his present spot.

"Without our plan," he declares, "we would not have been successful. Thanks to the foresight of D.C. Bell, then chairman of the board, we were fortunate to get into the game early. In the 1960s, we shared in the funding of INFORUM, the pioneering inter-industry econometric model at the Univ. of Maryland, and since that time we have put it to good use. We have done 15-year forecasts that 5 years later were within 3% of actual experience. Thanks to the Maryland model, our planning has led the industry."

Like National Distillers, most corporations depend increasingly on the guidelines the planning departments set. The planners, in turn, try to make sense of today's high-volume, worldwide, rapidly changing marketplace. They can no longer fly "by the seat of their pants." They refer, instead, to the private and public information suppliers, some long established, many of relatively recent origin, to produce the printed and electronic data on which they depend.

Even U.S. Industrial Chemicals, despite its proportionately large investment in its planning activities, turns over 30% of its research assignments to outside consultants. If, for example, Pilaro wanted to look at how much hydrocarbon was available on a world scale over a period of a year, he would farm the question out.

U.S. Industrial Chemicals' own information center is just across the hall from Pilaro's office. Despite the spread of on-line data banks—National Distillers uses the Lockheed bank—company librarian Peggy F. Presson considers the library's clipping files as important for market research, forecasting, and planning, as any information package, computerized or otherwise, she can get from vendors.

"I know from experience which periodicals print articles referring to our industry, our company, and our product lines," she explains. "They include *Oil and Gas Journal, Hydrocarbon Processing, Chemical Marketing Reporter, Modern Plastics,* and so forth. Each week I skim 50 of them and read the tables of contents of 60 more. In addition to being more current, much of the material I spot and file would be too specialized to interest the data banks, or too short for them to include."

The division's annual planning cycle begins in July of the previous year, Pilaro says. Data the sales force gathers in the field by asking customers, account by account, to estimate anticipated consumption, is applied to the forecast modelled by the Maryland econometric center. The annual information is also used to update the three, five, and ten-year plans, and thus, by determining whether or not additional production is needed, affects capital budget decisions as well as immediate operational tactics.

Presson's proclivity for hand clipping relevant periodicals is also recommended by Sandy Sutliffe, Doyle Dane Bernbach advertising agency, New York City. Presiding over a staff of seven,

Prestone's McCourt, Doyle Dane Bernbach's Sutliffe.

Gerson Goodman is a free-lance writer who specializes in sales and marketing topics.

Sutliffe runs one of the largest special libraries.

Asked what sources she views as essential to the planner's work, she suggests Standard & Poor's "Industry Survey" series and the Dept. of Commerce's "U.S. Industrial Outlook," which, she points out, includes its own ten-year forecast. To those without access to the numerical projections, such as those provided by INFORUM, Chase Econometrics, Data Resources, or other electronic sources, she recommends the 10-year model available in print from the Univ. of California, Los Angeles.

Among the data bases, she says, Predicast and Advertising and Marketing Intelligence are likely to respond usefully to planner-initiated searches. More selective banks, such as Paper Industry Research Abstracts, are also available as the search narrows, Sutliffe notes.

But don't give up on print, she warns. Before turning to the data base, she suggests, it's better to get acquainted with the subject by using a clipping file or a publication index like *Predicasts F&S*. Reading in advance, Sutliffe explains, makes the researcher more knowledgeable about the industry being studied and its terminology.

Go to Harvard

Academic sources can also be helpful, she adds. She advises planners to become acquainted with the Harvard graduate school's regularly revised bibliographies on business subjects. Harvard's celebrated case study approach to corporate management, she says, can be investigated by referring to its *Intercollegiate Bibliography of Selected Cases in Administration.*

Marketing manager Robert S. Mitchell and marketing research director Joseph McCourt are "hands on" planners for Union Carbide's Prestone brand of antifreeze. "It's my job to provide Bob with the marketing surveys, audits, and forecasts," McCourt explains. "From them, he constructs the plan."

Like Pilaro at U.S. Industrial Chemicals, the Prestone executives make use of macroeconomic data supplied by forecasters like Data Resources. Prestone's Danbury office also purchases "hard" data from two bases concerned solely with the automotive industry: R.L. Polk, and National Aftermarket Audit, which report by make, model, and age the number of vehicles in operation.

For their own input, they refer to a variety of sources, some of which are generally available, some of which they commission themselves. In the former category, McCourt lists the annual report by the Chemical Specialties Manufacturers' Assn. "As in many other industries," he said, "each producer anonymously reports his volume to the association. The aggregate figures are checked by an independent auditing firm and then included in a final report which is made available to the association's membership.

But Prestone seeks more specific information in constructing its market plan than even Nielsen and its competitor can offer. To reach a national consumer cross section with questionnaires designed in-house, the firm uses mail panels developed by such vendors as National Family Opinion Poll, the Home Testing Institute, and Market Facts. McCourt also regularly consults Union Carbide's business library, primarily to check broad economic and demographic patterns.

"You don't plan once a year. It's a constant thing," Mitchell reflects. "If somebody sees a blip somewhere along the line—say we learn Detroit is going to downsize the cars even more severely than it had announced six months earlier—we plug in the new numbers. What comes out may or may not alter our plan."

Go to Commerce

The Union Carbide planners, as well as the other information interpreters S&MM consulted, agree that Uncle Sam himself is an indispensable data source. McCourt says, "Different parts of the government are constantly producing historical reports and recent studies and making projections, some of which are more or less relevant to our business. Once you get on their lists, the material keeps coming to you.

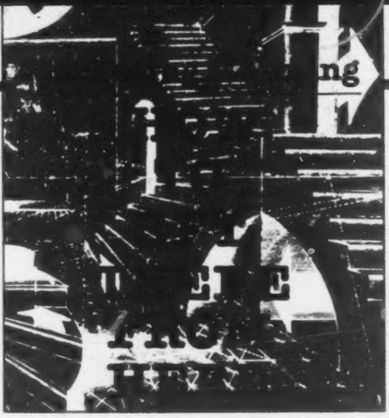
The federal government's most frequently referred to statistics, such as the Census Bureau's reports on business and manufacturing, are available at no charge in Dept. of Commerce offices in larger cities throughout the country. The bureau's pamphlet, *Census Products and Services*, is distributed at all of them.

Less well known than Commerce's 44 regional offices are its two Business Reference & Research Section libraries, one in Washington, DC, the other in New York City, where information specialists maintain industry by industry files and regularly issue detailed reports based on them. The New York City research library is located at 26 Federal Plaza (212-264-0630). In Washington the address is 14th St. at Constitution Ave., N.W. (202-377-5511).

Dealing with the torrents of data that are created daily by the government, in business, and on the campus is in itself a specialized job. Workers in the data industry trying to project the vagaries of the market follow varied paths to accomplish it.

Some depend on their company's information center to pass current developments along to them; others, like Prestone's McCourt, bird-dog the trade shows and meetings concerned with electronic or printed data. "You have to get out there," McCourt says, "to find out what's available and to evaluate the suppliers."

Difficult though it may be to keep abreast of all the information that's available, it is essential for reliable planning. "It's like having a compass," says Union Carbide's Mitchell. "You can get by by looking at the shoreline, but if you have a compass on the ship you can tell exactly what you are doing and make your corrections."



The sales force has a big say at Gerber's

By BOB WOODS
Associate Editor

Marketing planning at Gerber Products was probably a lot easier back in the days when babies really *were* its only business. In the decade since it began diversifying beyond its baby food domain into such markets as infantwear, day care centers, life insurance, and even trucking, Gerber's marketing planning has become more than forecasting birth rates and infants' eating habits. And with the help of the field sales force, one of Gerber's marketing planners has developed a system that is aiding the company's entrance into nonfood markets.

Two years ago Gerber split into separate food and nonfood (or general merchandise) divisions. (The day care centers, life insurance company, and the trucking firm operate autonomously.) The baby food division, with more than 200 varieties, has 70% of the U.S. market, and generated most of Gerber's $630 million sales last year. However, sales of the company's 600 general merchandise items—including infant clothes, feeding utensils, exercisers, humidifiers, and vaporizers—continue to move Gerber into the total baby-care position it is aiming toward.

Soon after the two divisions were in place, Gerber appointed Blaine L. Hilton vice president of marketing planning for general merchandise. Coordinating efforts with Bob Erver, vice president, special products sales, and Jerry Ward, director of marketing planning for the food division, Hilton oversees the product managers, marketing research, and marketing services for the nonfood products. All of Gerber's 800 salespeople sell the company's complete nonfood line, though 100 of them sell just general merchandise, and only in nonfood outlets. Food stores remain the best outlets, but other retail stores are gaining importance.

Hilton says that Gerber must depend on input from the national field force more than the average company does. "Fremont is not exactly a beaten path," he says, in reference to Gerber's less-than-strategic location in this small western Michigan town, an hour from Grand Rapids. For this and other reasons, he insists, he must "rely very heavily on the field reps" in his marketing planning. And he speaks from experience on the other side too; he was a Gerber salesman for 30 years in Stamford, CT.

Hilton develops both a one-year and five-year plan for each general merchandise item, putting them into various categories. Obviously, Hilton says, the one-year plan is more accurate. "The five-year plan is hard to hit on the nose, but it makes people think," he says, adding that the reps' cumulative input over the years is particularly vital in his long-range planning.

At the same time Hilton works on the general merchandise planning, Jerry Ward designs a marketing plan for the food products. Noting the food division's commanding market share, Hilton suggests that his task is more complicated than Ward's. Along the way, therefore, Hilton requests input from the field reps to help design, and also implement, his plan. The plans are reviewed and

Blaine Hilton (l.), Jerry Ward, and Bob Erver: together, they do the planning for Gerber's general merchandise.

approved by company officials, and are then merged to take effect on Apr. 1 of each year, when the company's fiscal year starts.

Copies of the complete plan are sent to Gerber's 14 division managers, 7 each for food and nonfood. They pass along information relative to the company's 32 district sales managers. The individual reps finally receive quarterly sales and marketing objectives from territory managers three months in advance. During this time they file detailed written reports to the division managers. These reports are the wedge Hilton hopes will help drive Gerber into more nonfood markets.

There is no actual form for the reps' reports, although they're all expected to answer some of the same basic questions. Aside from requesting comments on certain parts of the quarterly marketing plan, the reports ask for information on particular market conditions, brand shares, and Gerber's overall position in those specific nonfood marketplaces, based on every rep's personal experiences.

Hilton emphasizes that this input is critical when dealing with so many dramatic and subtle differences in infant markets across the country. "We must rely on the field sales force for marketplace information," he says. "The salesmen offer overall appraisal. We're guided by their suggestions."

The complete marketing plan is updated every quarter, after the 14 division managers have scrutinized the reps' reports. Twice a year the division managers meet with Hilton, Erver, and Ward in Fremont. Hilton generally describes his marketing planning as being "top down," or management inspired, though at this point he says it tends to turn "bottom up," with the sales force determining some elements. "We like a constant flow of information from the field reps," he says. "If the plan doesn't work, we want to find out *now*, before it's too late."

Betting on your best bet

Since future events and conditions cannot be predicted consistently with complete accuracy, the end product of the forecasting process can best be described as giving advice. In most cases, that advice is provided in the form of a single *best-bet* figure that represents either the value of a time series at a specific time or the cumulative value of the series at the end of a specific period of time. It is the point at which there is an even chance that the future outcome will fall above or below it.

The best-bet approach is a widely accepted method of providing advice about the future, because it facilitates precise planning and decision making. Its primary weakness, however, is that planning and decision-making processes assume that the forecast describes the future precisely, when in fact it cannot perform such a feat.

From *The Professional Forecaster:*
The Forecasting Process Through Data
Analysis, by James P. Cleary and
Hans Levenbach, published by
Lifetime Learning Publications, Belmont, CA.

Would you trust a researcher?

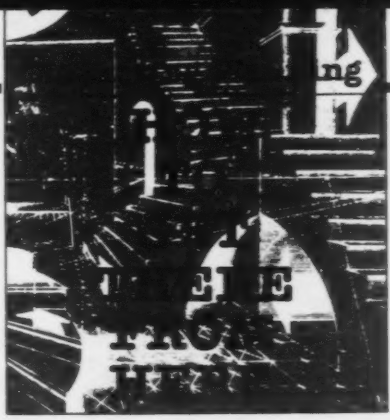
When Norman Lear tried to sell CBS brass on his idea for a new comedy show, *All in the Family*, he ran into considerable opposition. (For one thing, then CBS chairman William Paley hated the show; he thought that it was vulgar.) The people in the network's research department came up with a "solution" to (1) getting the program on the air and (2) ensuring its success with viewers: change Archie Bunker into a mild-mannered man, supportive of his family.

Hilton says that Gerber is "flexible" in making suggested changes in the marketing plan, with certain cost limits. While the company might reconsider the color of a T-shirt, it would not be likely to change the size of a baby bottle, because that would require expensive retooling.

Hilton recalls how reports from the sales force made a big difference recently. Last year's nonfood marketing plan outlined the introduction of a new line of coveralls. Armed with information from the reps' reports, the division managers suggested revising parts of the plan, which was done to everyone's satisfaction. Hilton says that as a result the reps "felt an obligation in selling because they were involved. They have a part, a choice to say yes or no."

As Hilton initiates his 1982 marketing plan this fall, he is combining the reps' comments with federal and industry data, including birth rates (which, incidentally, were up 14% in 1980), trends in first births to families (who become prospects for Gerber's full line as the family grows), and other demographics pertaining to infants. Although Gerber uses in-house computers for sales forecasting, Hilton wishes the company would investigate more ways to use the machines in marketing planning, especially when he's confronted with such a flood of raw material.

Following positive third-quarter financial statements that indicate Gerber is well on the way to meeting its projected 10% rise in net earnings for fiscal year 1981, Hilton is confident that his planning strategy will contribute to the company's growth in nonfood markets. "We don't go right out and ask the salespeople what they want," he says, "but the quarterly reports make a difference." ■



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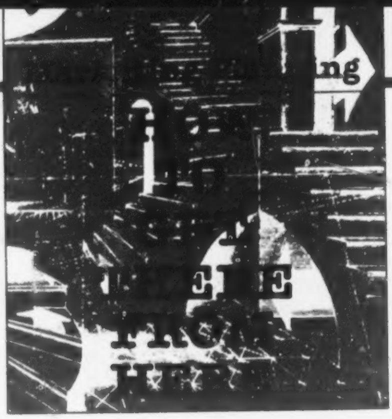

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SALES & MARKETING MANAGEMENT

633 Third Avenue, New York, NY 10164-0563

County SIC	Metro Area	Industry	Number Of Plants: Total Plants	Number Of Plants: Large Plants	1981 (S&MM Est.): Total Shipments ($ Mil.)	1981 (S&MM Est.): % Of U S Shipments	1981 (S&MM Est.): % In Large Plants
2261		Cotton-finishing plants	3	2	62.6	5.9944	99
2321		Men's & boys' shirts & nightwear	3	3	40.5	.9695	100
2824		Noncellulosic synthetic organic fibers	2	2	446.7	4.4071	100
3011		Tires & inner tubes	2	1	209.5	1.9232	95
3079		Miscellaneous plastics products	9	1	70.1	.2567	69
3552		Textile machinery	11	2	72.4	3.6894	73
Sumter		**All mfg.**	**56**	**18**	**755.0**	**.3392**	**84**
2038		Frozen food specialties	1	1	257.3	5.9171	100
2511		Wood household furniture	2	2	44.5	.8727	100
Union		**All mfg.**	**26**	**15**	**306.7**	**.0159**	**87**
2261		Cotton-finishing plants	3	2	37.8	3.6196	98
Williamsburg		**All mfg.**	**19**	**9**	**242.8**	**.0126**	**85**
York	**236**	**All mfg.**	**77**	**26**	**984.0**	**.0511**	**85**
2211		Cotton-weaving mills	4	3	87.8	1.6026	98
2261		Cotton-finishing plants	5	1	31.3	2.9972	86
2262		Synthetics- & silk-finishing plants	1	1	141.4	5.2256	100
2823		Cellulosic man-made fibers	1	1	145.8	9.1543	100
State Total		**All mfg.**	**2,038**	**897**	**30,149.5**	**1.5654**	**86**

SOUTH DAKOTA

County SIC	Metro Area	Industry	Total Plants	Large Plants	Total Shipments ($ Mil.)	% Of U S Shipments	% In Large Plants
Aurora		**All mfg.**	**1**		**1.5**	**.0001**	**0**
Beadle		**All mfg.**	**22**	**3**	**202.3**	**.0105**	**55**
Bon Homme		**All mfg.**	**4**		**7.9**	**.0004**	**0**
Brookings		**All mfg.**	**15**	**3**	**122.1**	**.0063**	**67**
Brown		**All mfg.**	**26**	**6**	**188.7**	**.0098**	**54**
Brule		**All mfg.**	**1**		**2.8**	**.0001**	**0**
Buffalo		**All mfg.**	**1**		**3.4**	**.0002**	**0**
Butte		**All mfg.**	**5**		**13.4**	**.0007**	**0**
Campbell		**All mfg.**	**2**		**18.1**	**.0009**	**0**
Charles Mix		**All mfg.**	**2**		**21.0**	**.0011**	**0**
Clark		**All mfg.**	**2**	**2**	**22.4**	**.0012**	**100**
Clay		**All mfg.**	**7**	**1**	**35.2**	**.0018**	**41**
Codington		**All mfg.**	**28**	**8**	**136.1**	**.0071**	**58**
Corson		**All mfg.**	**1**		**4.4**	**.0002**	**0**
Custer		**All mfg.**	**4**		**6.1**	**.0003**	**0**
Davison		**All mfg.**	**15**	**1**	**122.2**	**.0063**	**37**
Day		**All mfg.**	**5**	**1**	**43.3**	**.0022**	**58**
Deuel		**All mfg.**	**1**		**3.9**	**.0002**	**0**
Dewey		**All mfg.**	**1**		**6.6**	**.0003**	**0**
Douglas		**All mfg.**	**4**		**6.4**	**.0003**	**0**
Edmunds		**All mfg.**	**2**		**6.1**	**.0003**	**0**
Fall River		**All mfg.**	**4**		**14.2**	**.0007**	**0**
Grant		**All mfg.**	**10**	**2**	**80.3**	**.0042**	**50**
Gregory		**All mfg.**	**4**		**12.3**	**.0006**	**0**
Haakon		**All mfg.**	**1**		**3.0**	**.0002**	**0**
Hamlin		**All mfg.**	**1**		**14.4**	**.0007**	**0**
Hand		**All mfg.**	**3**		**5.7**	**.0003**	**0**
Hanson		**All mfg.**	**1**		**3.2**	**.0002**	**0**
Hughes		**All mfg.**	**5**		**12.1**	**.0006**	**0**
Hutchinson		**All mfg.**	**9**		**33.1**	**.0017**	**0**
Jerauld		**All mfg.**	**1**		**2.9**	**.0002**	**0**
Jones		**All mfg.**	**2**	**1**	**7.8**	**.0004**	**46**
Kingsbury		**All mfg.**	**6**		**14.3**	**.0007**	**0**
Lake		**All mfg.**	**9**	**4**	**57.1**	**.0030**	**80**
Lawrence		**All mfg.**	**6**		**17.0**	**.0009**	**0**
Lincoln		**All mfg.**	**9**	**1**	**49.9**	**.0026**	**11**
Lyman		**All mfg.**	**1**		**3.0**	**.0002**	**0**
McCook		**All mfg.**	**9**		**29.3**	**.0015**	**0**
McPherson		**All mfg.**	**1**		**11.1**	**.0006**	**0**
Marshall		**All mfg.**	**6**		**23.9**	**.0012**	**0**
Meade		**All mfg.**	**7**		**35.3**	**.0018**	**0**
Miner		**All mfg.**	**3**		**4.9**	**.0003**	**0**
Minnehaha	**262**	**All mfg.**	**75**	**18**	**920.5**	**.0478**	**69**
2013		Sausages & other prepared meats	1	1	449.6	3.8035	100
Moody		**All mfg.**	**5**		**14.3**	**.0007**	**0**
Pennington		**All mfg.**	**44**	**11**	**386.0**	**.0200**	**68**
Perkins		**All mfg.**	**1**		**3.7**	**.0002**	**0**
Potter		**All mfg.**	**3**		**9.9**	**.0005**	**0**
Roberts		**All mfg.**	**4**		**13.9**	**.0007**	**0**
Sanborn		**All mfg.**	**1**		**1.2**	**.0001**	**0**
Shannon		**All mfg.**	**1**	**1**	**2.5**	**.0001**	**100**
Spink		**All mfg.**	**2**		**15.3**	**.0008**	**0**
Stanley		**All mfg.**	**2**		**11.9**	**.0006**	**0**
Todd		**All mfg.**	**2**		**6.5**	**.0003**	**0**
Turner		**All mfg.**	**5**		**27.5**	**.0014**	**0**
Union		**All mfg.**	**16**	**3**	**78.2**	**.0041**	**52**
Walworth		**All mfg.**	**2**		**6.2**	**.0003**	**0**
Washabaugh		**All mfg.**	**1**		**2.0**	**.0001**	**0**
Yankton		**All mfg.**	**13**	**6**	**165.2**	**.0086**	**79**
State Total		**All mfg.**	**424**	**72**	**3,073.5**	**.1596**	**54**

TENNESSEE

County SIC	Metro Area	Industry	Total Plants	Large Plants	Total Shipments ($ Mil.)	% Of U S Shipments	% In Large Plants
Anderson	**139**	**All mfg.**	**32**	**10**	**943.7**	**.0490**	**94**
2819		Industrial inorganic chemicals n.e.c.	1	1	728.9	5.8661	100
Bedford		**All mfg.**	**30**	**12**	**271.6**	**.0141**	**82**
Benton		**All mfg.**	**4**	**3**	**34.2**	**.0018**	**97**
Bledsoe		**All mfg.**	**4**	**1**	**7.5**	**.0004**	**35**
Blount	**139**	**All mfg.**	**20**	**8**	**1,485.5**	**.0771**	**98**
2823		Cellulosic man-made fibers	1	1	246.4	15.4706	100
3334		Primary aluminum	1	1	708.5	12.0836	100
3353		Aluminum sheet, plate, & foil	1	1	404.5	5.3766	100
Bradley		**All mfg.**	**53**	**26**	**677.8**	**.0352**	**87**
2328		Men's & boys' work clothing	1	1	67.0	1.2452	100
2512		Upholstered wood household furniture	9	4	57.0	1.6355	84
3631		Household cooking equipment	3	3	149.9	7.8224	100
3692		Dry & wet primary batteries	1	1	82.4	8.9100	100
Campbell		**All mfg.**	**15**	**3**	**69.7**	**.0036**	**64**
Cannon		**All mfg.**	**5**	**2**	**36.2**	**.0019**	**68**
Carroll		**All mfg.**	**15**	**9**	**181.5**	**.0094**	**85**
Carter	**131**	**All mfg.**	**19**	**10**	**273.4**	**.0142**	**92**
2823		Cellulosic man-made fibers	1	1	122.5	7.6913	100
Cheatham	**183**	**All mfg.**	**9**	**5**	**156.2**	**.0081**	**93**
3639		Household appliances n.e.c.	2	2	109.2	7.4079	100
Chester		**All mfg.**	**6**	**3**	**46.1**	**.0024**	**83**
Claiborne		**All mfg.**	**9**	**6**	**65.2**	**.0034**	**89**
Clay		**All mfg.**	**5**		**22.4**	**.0012**	**0**
Cocke		**All mfg.**	**17**	**15**	**362.3**	**.0188**	**99**
Coffee		**All mfg.**	**39**	**11**	**231.9**	**.0120**	**67**
3949		Sporting & athletic goods n.e.c.	3	2	51.3	1.7169	91
Crockett		**All mfg.**	**6**	**2**	**78.7**	**.0041**	**83**
Cumberland		**All mfg.**	**17**	**9**	**142.7**	**.0074**	**78**
Davidson	**183**	**All mfg.**	**347**	**107**	**4,497.6**	**.2335**	**82**
2011		Meat-packing plants	5	4	476.6	1.1223	97
2711		Newspapers	3	2	130.6	.7142	98
2751		Letterpress commercial printing	14	5	62.3	1.0146	76
2824		Noncellulosic synthetic organic fibers	1	1	534.7	5.2753	100
3079		Miscellaneous plastics products	7	2	72.2	.2643	85
3211		Flat glass	1	1	288.8	12.4946	100
3661		Telephone & telegraph apparatus	2	2	92.6	.7110	100
3728		Aircraft equipment n.e.c.	1	1	143.6	1.7925	100
3731		Ship building & repairing	1	1	89.2	.7459	100
Decatur		**All mfg.**	**7**	**4**	**107.4**	**.0056**	**86**
Dekalb		**All mfg.**	**10**	**6**	**80.6**	**.0042**	**87**
Dickson	**183**	**All mfg.**	**15**	**3**	**130.7**	**.0068**	**79**
Dyer		**All mfg.**	**15**	**11**	**386.0**	**.0200**	**95**
Fayette		**All mfg.**	**8**	**4**	**77.4**	**.0040**	**73**
Fentress		**All mfg.**	**8**	**4**	**46.9**	**.0024**	**76**
Franklin		**All mfg.**	**14**	**5**	**98.3**	**.0051**	**83**
Gibson		**All mfg.**	**36**	**25**	**547.1**	**.0284**	**95**
3483		Ammunition, except small-arms, n.e.c.	2	1	107.6	11.2647	98
Giles		**All mfg.**	**21**	**9**	**293.3**	**.0152**	**82**
3714		Motor-vehicle parts & accessories	1	1	124.0	.3008	100
Grainger		**All mfg.**	**7**	**3**	**35.8**	**.0019**	**79**
Greene		**All mfg.**	**26**	**16**	**647.0**	**.0336**	**95**
3651		Radio & TV receiving sets	1	1	227.7	2.6322	100
Grundy		**All mfg.**	**7**	**2**	**26.7**	**.0014**	**47**
Hamblen		**All mfg.**	**46**	**18**	**400.4**	**.0208**	**82**
2511		Wood household furniture	4	3	71.6	1.4041	98
2512		Upholstered wood household furniture	5	1	44.3	1.2711	82

1981 (S&MM Est.)

TENNESSEE (cont.)

County SIC	Metro Area Industry	Number Of Plants Total Plants	 Large Plants	Total Shipments ($ Mil.)	% Of U.S. Shipments	% In Large Plants
Hamilton	**57 All mfg.**	**247**	**92**	**3,978.5**	**.2066**	**86**
2052	Cookies & crackers	2	1	110.0	3.1558	94
2281	Yarn-spinning mills, except wool	4	4	113.8	2.4618	100
2824	Noncellulosic synthetic organic fibers	1	1	629.1	6.2067	100
2892	Explosives	1	1	95.3	9.0349	100
3264	Porcelain electrical supplies	3	2	42.8	8.6710	97
3321	Gray-iron foundries	4	3	143.1	1.6783	97
3443	Fabricated plate work (boiler shops)	6	6	345.7	3.4656	100
3494	Valves & pipe fittings	3	3	164.6	2.1107	100
Hancock	**All mfg.**	**2**		**6.9**	**.0004**	**0**
Hardeman	**All mfg.**	**11**	**6**	**148.7**	**.0077**	**95**
Hardin	**All mfg.**	**14**	**5**	**186.1**	**.0097**	**85**
Hawkins	**131 All mfg.**	**6**	**6**	**121.3**	**.0063**	**100**
Haywood	**All mfg.**	**14**	**4**	**72.5**	**.0038**	**57**
Henderson	**All mfg.**	**13**	**8**	**187.3**	**.0097**	**84**
Henry	**All mfg.**	**20**	**12**	**280.5**	**.0146**	**92**
Hickman	**All mfg.**	**9**	**2**	**43.7**	**.0023**	**64**
Houston	**All mfg.**	**4**	**2**	**13.6**	**.0007**	**72**
Humphreys	**All mfg.**	**9**	**6**	**315.7**	**.0164**	**97**
Jackson	**All mfg.**	**5**	**3**	**44.6**	**.0023**	**79**
Jefferson	**All mfg.**	**16**	**5**	**172.3**	**.0089**	**89**
2517	Wood TV & radio cabinets	1	1	73.7	18.0460	100
Johnson	**All mfg.**	**7**	**4**	**152.8**	**.0079**	**95**
2221	Synthetics- & silk-weaving mills	1	1	112.6	1.4708	100
Knox	**139 All mfg.**	**208**	**69**	**2,106.7**	**.1094**	**81**
2311	Men's & boys' suits & coats	8	6	93.5	2.2720	98
2327	Men's & boys' separate trousers	2	2	55.2	2.2325	100
2399	Fabricated textile products n.e.c.	2	1	101.2	6.4984	98
3079	Miscellaneous plastics products	8	5	73.8	.2702	90
3622	Industrial controls	1	1	60.4	1.7417	100
3823	Industrial process-control instruments	2	1	72.9	2.4877	97
Lake	**All mfg.**	**9**	**3**	**105.7**	**.0055**	**30**
Lauderdale	**All mfg.**	**22**	**12**	**251.7**	**.0131**	**87**
3079	Miscellaneous plastics products	3	2	76.3	.2794	98
Lawrence	**All mfg.**	**22**	**6**	**324.3**	**.0168**	**83**
3524	Lawn & garden equipment	1	1	79.4	4.1555	100
3751	Motorcycles, bicycles, & parts	1	1	110.7	10.0545	100
Lewis	**All mfg.**	**7**	**4**	**71.5**	**.0037**	**90**
Lincoln	**All mfg.**	**14**	**10**	**468.4**	**.0243**	**92**
2335	Women's & misses' dresses	4	4	112.2	1.8308	100
3585	Refrigeration & heating equipment	1	1	252.3	1.2060	100
Loudon	**All mfg.**	**14**	**9**	**275.6**	**.0143**	**94**
3714	Motor-vehicle parts & accessories	1	1	99.2	.2406	100
McMinn	**All mfg.**	**41**	**25**	**528.3**	**.0274**	**93**
2621	Paper mills, except building paper	1	1	168.7	.8891	100
McNairy	**All mfg.**	**18**	**14**	**207.2**	**.0108**	**96**
2321	Men's & boys' shirts & nightwear	7	7	84.3	2.0180	100
Macon	**All mfg.**	**14**	**5**	**104.9**	**.0054**	**76**
Madison	**All mfg.**	**64**	**22**	**783.7**	**.0407**	**83**
Marion	**57 All mfg.**	**16**	**8**	**131.2**	**.0068**	**71**
Marshall	**All mfg.**	**24**	**11**	**357.2**	**.0185**	**86**
3585	Refrigeration & heating equipment	2	1	195.1	.9326	95
3952	Lead pencils & art goods	3	3	45.9	13.2659	100
Maury	**All mfg.**	**47**	**13**	**637.4**	**.0331**	**67**
Meigs	**All mfg.**	**3**	**1**	**12.5**	**.0006**	**86**
Monroe	**All mfg.**	**18**	**5**	**90.2**	**.0047**	**63**
Montgomery	**61 All mfg.**	**25**	**11**	**598.5**	**.0311**	**91**
3143	Men's nonathletic footwear	1	1	43.5	1.7551	100
3585	Refrigeration & heating equipment	1	1	344.8	1.6482	100
Moore	**All mfg.**	**2**	**1**	**53.7**	**.0028**	**96**
Morgan	**All mfg.**	**5**	**3**	**40.5**	**.0021**	**88**
Obion	**All mfg.**	**18**	**7**	**586.7**	**.0305**	**94**
3011	Tires & inner tubes	1	1	351.8	3.2295	100
Overton	**All mfg.**	**10**	**4**	**74.1**	**.0038**	**72**
2321	Men's & boys' shirts & nightwear	2	2	45.2	1.0820	100
Perry	**All mfg.**	**6**	**3**	**50.3**	**.0026**	**89**
Pickett	**All mfg.**	**6**	**3**	**30.0**	**.0016**	**74**
Polk	**All mfg.**	**6**	**3**	**151.7**	**.0079**	**93**
Putnam	**All mfg.**	**52**	**17**	**397.6**	**.0206**	**77**
Rhea	**All mfg.**	**16**	**11**	**210.1**	**.0109**	**95**
Roane	**All mfg.**	**14**	**6**	**194.7**	**.0101**	**87**
2251	Women's full- & knee-length hosiery	2	2	41.9	3.9112	100
Robertson	**183 All mfg.**	**18**	**10**	**138.3**	**.0072**	**83**
Rutherford	**183 All mfg.**	**54**	**24**	**734.6**	**.0381**	**88**
3011	Tires & inner tubes	1	1	185.6	1.7038	100
3621	Motors & generators	1	1	56.0	.8662	100
Scott	**All mfg.**	**7**	**4**	**43.0**	**.0022**	**81**
Sequatchie	**57 All mfg.**	**7**	**2**	**33.1**	**.0017**	**58**
Sevier	**All mfg.**	**16**	**5**	**111.7**	**.0058**	**72**
Shelby	**172 All mfg.**	**474**	**135**	**6,649.7**	**.3453**	**81**
2011	Meat-packing plants	6	5	455.8	1.0733	97
2051	Bread, cake, & related products	11	5	105.1	.9162	88
2511	Wood household furniture	6	3	61.4	1.2041	92
2643	Bags, except textile bags	5	3	172.7	3.6145	93
2647	Sanitary paper products	2	1	284.6	4.2607	98
2711	Newspapers	5	1	67.2	.3675	89
2819	Industrial inorganic chemicals n.e.c.	6	3	176.4	1.4196	93
2834	Pharmaceutical preparations	2	1	231.4	1.4082	98
3011	Tires & inner tubes	1	1	411.0	3.7730	100
3443	Fabricated plate work (boiler shops)	10	3	79.6	.7980	69
3523	Farm machinery & equipment	5	2	236.9	1.9058	96
3641	Electric lamps	1	1	147.4	6.4224	100
3931	Musical instruments & parts	2	2	46.4	3.9126	100
Smith	**All mfg.**	**6**	**3**	**95.1**	**.0049**	**91**
Sullivan	**131 All mfg.**	**64**	**29**	**2,287.3**	**.1188**	**95**
2621	Paper mills, except building paper	1	1	148.4	.7821	100
2821	Plastics materials & synthetic resins	1	1	271.4	1.6591	100
2823	Cellulosic man-made fibers	1	1	459.2	28.8315	100
2869	Industrial organic chemicals n.e.c.	1	1	690.7	1.9871	100
3483	Ammunition, except small-arms, n.e.c.	2	1	53.8	5.6323	98
3662	Radio & TV communication equipment	1	1	154.5	.6415	100
Sumner	**183 All mfg.**	**47**	**21**	**492.4**	**.0256**	**74**
Tipton	**172 All mfg.**	**13**	**4**	**76.7**	**.0040**	**58**
Trousdale	**All mfg.**	**7**	**5**	**55.7**	**.0029**	**94**
Unicoi	**131 All mfg.**	**8**	**6**	**143.2**	**.0074**	**94**
Union	**139 All mfg.**	**5**		**15.1**	**.0008**	**0**
Van Buren	**All mfg.**	**4**	**3**	**40.5**	**.0021**	**93**
Warren	**All mfg.**	**25**	**13**	**590.3**	**.0306**	**93**
3585	Refrigeration & heating equipment	1	1	252.3	1.2060	100
Washington	**131 All mfg.**	**52**	**27**	**823.7**	**.0428**	**90**
3661	Telephone & telegraph apparatus	1	1	166.1	1.2753	100
Wayne	**All mfg.**	**11**	**8**	**88.0**	**.0046**	**96**
Weakley	**All mfg.**	**16**	**9**	**115.7**	**.0060**	**82**
White	**All mfg.**	**16**	**8**	**182.1**	**.0095**	**88**
Williamson	**183 All mfg.**	**25**	**8**	**179.6**	**.0093**	**69**
Wilson	**183 All mfg.**	**34**	**9**	**368.4**	**.0191**	**78**
3714	Motor-vehicle parts & accessories	1	1	117.1	.2840	100
State Total	**All mfg.**	**2,859**	**1,126**	**40,295.0**	**2.0922**	**86**

TEXAS

County SIC	Metro Area Industry	Total Plants	Large Plants	Total Shipments ($ Mil.)	% Of U.S. Shipments	% In Large Plants
Anderson	**All mfg.**	**18**	**6**	**486.3**	**.0252**	**32**
Andrews	**All mfg.**	**2**	**1**	**20.9**	**.0011**	**89**
Angelina	**All mfg.**	**37**	**18**	**506.2**	**.0263**	**84**
3321	Gray-iron foundries	2	2	83.9	.9840	100
Aransas	**All mfg.**	**2**	**1**	**13.2**	**.0007**	**70**
Armstrong	**All mfg.**	**1**		**3.0**	**.0002**	**0**
Atascosa	**All mfg.**	**2**		**9.7**	**.0005**	**0**
Austin	**All mfg.**	**14**	**1**	**81.6**	**.0042**	**13**
Bailey	**All mfg.**	**1**		**3.0**	**.0002**	**0**
Bandera	**All mfg.**	**1**	**1**	**6.9**	**.0004**	**100**

DEFINITIONS—**SIC Industry:** Classification by plant's primary product. **N.E.C.:** Not elsewhere classified. **Metro Area Code:** Metro market that county belongs to; see list, page 59. **Total Plants:** 20 + employees. **Large Plants:** 100 + employees. **All mfg.:** Total for all plants with 20 + employees in the county. **Shipments:** Dollar value of all goods produced. **% Of U.S.:** Boldface refers to county's share of total U.S. shipments; lightface to the SIC industry in the county and its share of the industry's total U.S. shipments. **% In Large Plants:** Share of shipments (rounded) from plants with 100 + employees; if the share is 99.5% or more, it shows as 100%.

County SIC	Metro Area	Industry	Number Of Plants Total Plants	Large Plants	1981 (S&MM Est.) Total Shipments ($ Mil.)	% Of U.S. Shipments	% In Large Plants
Bastrop		**All mfg.**	9	2	49.6	.0026	42
Baylor		**All mfg.**	2	1	8.1	.0004	65
Bee		**All mfg.**	4		10.0	.0005	0
Bell	138	**All mfg.**	54	19	367.2	.0191	67
2531		Public-building & related furniture	4	4	44.1	4.5938	100
3079		Miscellaneous plastics products	5	4	68.3	.2501	97
Bexar	247	**All mfg.**	325	111	3,818.4	.1983	74
2011		Meat-packing plants	10	7	624.3	1.4701	92
2051		Bread, cake, & related products	9	6	78.1	.6809	92
2339		Women's & misses' outerwear n.e.c.	4	1	70.0	1.5382	86
2711		Newspapers	3	2	61.5	.3363	97
3272		Concrete products n.e.c	12	3	60.2	1.5977	57
3441		Fabricated structural metal	10	4	63.8	.9156	77
3479		Metal coating & allied services n.e.c.	2	1	63.2	2.8587	95
3573		Electronic computing equipment	6	4	221.9	.7594	96
3585		Refrigeration & heating equipment	4	3	231.4	1.1061	95
Blanco		**All mfg.**	1		6.5	.0003	0
Bosque		**All mfg.**	9	4	61.0	.0032	70
Bowie	277	**All mfg.**	65	15	696.7	.0362	72
3011		Tires & inner tubes	1	1	198.8	1.8250	100
Brazoria	120	**All mfg.**	67	19	4,684.9	.2432	91
2812		Alkalies & chlorine	2	2	124.6	5.1379	100
2819		Industrial inorganic chemicals n.e.c.	5	2	189.5	1.5251	87
2821		Plastics materials & synthetic resins	3	2	226.2	1.3828	94
2869		Industrial organic chemicals n.e.c.	6	3	2,054.8	5.9115	97
Brazos	45	**All mfg.**	32	7	226.3	.0117	52
Brewster		**All mfg.**	1		3.5	.0002	0
Brooks		**All mfg.**	1		6.8	.0004	0
Brown		**All mfg.**	22	7	198.5	.0103	72
Burleson		**All mfg.**	3	2	18.8	.0010	80
Burnet		**All mfg.**	12		22.5	.0012	0
Caldwell		**All mfg.**	9	2	47.5	.0025	32
Calhoun		**All mfg.**	12	3	231.9	.0120	80
3334		Primary aluminum	1	1	161.1	2.7476	100
Callahan	1	**All mfg.**	1		2.4	.0001	0
Cameron	44	**All mfg.**	85	32	1,171.0	.0608	73
2328		Men's & boys' work clothing	2	2	72.6	1.3493	100
3533		Oil-field machinery	2	2	143.0	2.3306	100
Camp		**All mfg.**	6	1	72.0	.0037	76
Carson		**All mfg.**	1		1.3	.0001	0
Cass		**All mfg.**	7	3	57.6	.0030	66
Castro		**All mfg.**	2	1	33.3	.0017	53
Chambers		**All mfg.**	3	1	409.6	.0213	64
Cherokee		**All mfg.**	42	10	291.4	.0151	55
Childress		**All mfg.**	3	2	27.0	.0014	93
Clay	297	**All mfg.**	2	1	9.5	.0005	92
Coleman		**All mfg.**	6	2	28.3	.0015	78
Collin	70	**All mfg.**	51	17	373.5	.0194	63
Collingsworth		**All mfg.**	1		9.6	.0005	0
Colorado		**All mfg.**	13	4	77.4	.0040	69
Comal	247	**All mfg.**	19	12	264.1	.0137	89
Comanche		**All mfg.**	10	3	85.1	.0044	55
Cooke		**All mfg.**	24	7	205.4	.0107	65
Coryell	138	**All mfg.**	5		15.5	.0008	0
Crane		**All mfg.**	3		9.7	.0005	0
Crockett		**All mfg.**	1		4.4	.0002	0
Crosby		**All mfg.**	1		2.7	.0001	0
Culberson		**All mfg.**	1		1.2	.0001	0
Dallam		**All mfg.**	1		4.1	.0002	0
Dallas	70	**All mfg.**	1,173	339	11,887.9	.6172	73
2013		Sausages & other prepared meats	10	3	160.6	1.3586	68
2051		Bread, cake, & related products	11	5	110.3	.9616	84
2086		Bottled & canned soft drinks	8	2	119.1	.8098	68
2099		Food preparations n.e.c.	11	4	133.7	1.6223	72
2327		Men's & boys' separate trousers	2	1	92.6	3.7450	98
2335		Women's & misses' dresses	32	18	317.7	5.1840	88
2642		Envelopes	9	7	64.1	4.7718	90
2653		Corrugated & solid fiber boxes	19	9	173.7	1.6778	68
2711		Newspapers	12	4	169.5	.9270	85
2731		Book publishing	5	2	109.0	1.5741	92
2751		Letterpress commercial printing	39	8	99.5	1.6204	57
2841		Soap & other detergents	9	1	250.6	3.1796	64
2851		Paints & allied products	16	4	187.2	1.8498	61
3079		Miscellaneous plastics products	50	11	282.7	1.0350	62
3443		Fabricated plate work (boiler shops)	17	5	126.8	1.2711	66
3444		Sheet-metal work	34	3	129.9	2.0022	44
3532		Mining machinery	5	3	125.1	3.5727	93
3533		Oil-field machinery	10	8	415.9	6.7788	98
3559		Special-industry machinery n.e.c.	7	2	123.8	1.6147	82
3573		Electronic computing equipment	16	8	477.7	1.6349	90
3585		Refrigeration & heating equipment	11	4	665.6	3.1817	92
3661		Telephone & telegraph apparatus	8	4	237.0	1.8197	92
3662		Radio & TV communication equipment	30	10	377.4	1.5671	80
3674		Semiconductors & related devices	9	6	637.7	6.7713	98
3679		Electronic components n.e.c.	13	2	88.4	.9324	77
3691		Storage batteries	6	5	100.2	3.6173	97
3714		Motor-vehicle parts & accessories	11	9	178.6	.4332	97
3721		Aircraft	4	3	241.3	.9686	97
3728		Aircraft equipment n.e.c.	7	6	92.6	1.1559	98
Dawson		**All mfg.**	5	2	32.5	.0017	51
Deaf Smith		**All mfg.**	17	1	130.5	.0068	40
Delta		**All mfg.**	1		2.3	.0001	0
Denton	70	**All mfg.**	48	19	340.6	.0177	64
De Witt		**All mfg.**	7	2	47.8	.0025	42
Dickens		**All mfg.**	2		4.6	.0002	0
Dimmit		**All mfg.**	2	1	152.2	.0079	7
Donley		**All mfg.**	1		1.5	.0001	0
Duval		**All mfg.**	1		6.0	.0003	0
Eastland		**All mfg.**	16	3	116.3	.0060	71
Ector	198	**All mfg.**	86	13	675.2	.0351	61
3533		Oil-field machinery	14	4	115.5	1.8825	61
Edwards		**All mfg.**	1		3.0	.0002	0
Ellis	70	**All mfg.**	53	19	467.4	.0243	74
El Paso	84	**All mfg.**	181	85	3,327.9	.1728	91
2321		Men's & boys' shirts & nightwear	5	5	67.6	1.6183	100
2327		Men's & boys' separate trousers	15	14	209.3	8.4648	100
2328		Men's & boys' work clothing	10	8	269.6	5.0107	97
3143		Men's nonathletic footwear	6	4	59.1	2.3845	92
3331		Primary copper	2	2	323.6	6.7508	100
3444		Sheet-metal work	7	4	53.7	.8277	90
Erath		**All mfg.**	8	4	64.4	.0033	72
Falls		**All mfg.**	7	2	67.9	.0035	82
Fannin		**All mfg.**	13	6	217.7	.0113	93
Fayette		**All mfg.**	12	2	79.7	.0041	30
Fisher		**All mfg.**	1	1	18.2	.0009	100
Floyd		**All mfg.**	2		13.1	.0007	0
Foard		**All mfg.**	1		.9	.0000	0
Fort Bend	120	**All mfg.**	44	19	1,046.9	.0544	89
3494		Valves & pipe fittings	3	2	76.9	.9861	93
3573		Electronic computing equipment	2	1	443.1	1.5165	98
Franklin		**All mfg.**	3	1	13.6	.0007	69
Freestone		**All mfg.**	4		13.2	.0007	0
Frio		**All mfg.**	1		4.0	.0002	0
Gaines		**All mfg.**	1		3.5	.0002	0
Galveston	104	**All mfg.**	51	19	7,204.0	.3740	98
2821		Plastics materials & synthetic resins	2	2	361.8	2.2118	100
2869		Industrial organic chemicals n.e.c.	3	3	1,114.1	3.2052	100
2911		Petroleum refining	3	3	5,093.0	2.9002	100
3731		Ship building & repairing	4	3	148.4	1.2409	98
Gillespie		**All mfg.**	8	1	57.4	.0030	38
Gonzales		**All mfg.**	9	5	116.7	.0061	46
Gray		**All mfg.**	11	4	243.3	.0126	87
Grayson	259	**All mfg.**	57	29	1,136.9	.0590	87
3674		Semiconductors & related devices	1	1	166.8	1.7711	100
3842		Surgical appliances & supplies	1	1	74.8	1.6046	100
Gregg	159	**All mfg.**	92	27	1,291.3	.0670	69
2869		Industrial organic chemicals n.e.c.	1	1	317.0	.9120	100
3532		Mining machinery	1	1	80.1	2.2875	100
Grimes		**All mfg.**	9	4	66.4	.0034	75
Guadalupe	247	**All mfg.**	17	5	222.6	.0116	84
3651		Radio & TV receiving sets	1	1	111.6	1.2901	100
Hale		**All mfg.**	24	5	410.7	.0213	65
Hamilton		**All mfg.**	5	1	18.5	.0010	40
Hardeman		**All mfg.**	3	2	49.4	.0026	96

1981 (S&MM Est.)

TEXAS (cont.)

County SIC	Metro Area	Industry	Number Of Plants: Total Plants	Number Of Plants: Large Plants	Total Shipments ($ Mil.)	% Of U.S. Shipments	% In Large Plants
Hardin	29	All mfg.	10	4	546.1	.0284	71
2421		General sawmills & planing mills	5	2	94.1	.6931	84
2631		Paperboard mills	1	1	261.8	2.4456	100
Harris	120	All mfg.	1,432	404	29,086.1	1.5102	85
2044		Rice milling	5	5	667.0	41.2594	100
2051		Bread, cake, & related products	9	5	100.6	.8770	87
2095		Roasted coffee	3	3	563.4	7.7177	100
2611		Pulp mills	1	1	134.5	4.3153	100
2621		Paper mills, except building paper	2	2	269.8	1.4219	100
2653		Corrugated & solid fiber boxes	11	5	114.3	1.1040	71
2711		Newspapers	8	3	165.1	.9029	91
2751		Letterpress commercial printing	32	9	101.4	1.6514	69
2812		Alkalies & chlorine	8	5	359.7	14.8324	97
2813		Industrial gases	15	1	115.0	6.2735	56
2819		Industrial inorganic chemicals n.e.c.	16	6	275.6	2.2180	79
2821		Plastics materials & synthetic resins	21	15	1,082.6	6.6182	95
2822		Synthetic rubber	3	3	278.4	9.[illegible]4	100
2851		Paints & allied products	22	2	204.1	2.0168	28
2865		Cyclic crudes & intermediates	11	4	494.1	6.3223	79
2869		Industrial organic chemicals n.e.c.	28	11	1,901.9	5.4717	85
2899		Chemical preparations n.e.c.	20	2	195.2	3.0740	47
2911		Petroleum refining	8	5	10,503.7	5.9813	98
3079		Miscellaneous plastics products	58	10	276.3	1.0116	52
3273		Ready-mixed concrete	21	1	117.7	1.3027	10
3293		Gaskets, packing, & sealing devices	13	3	71.9	3.8208	61
3312		Blast furnaces & steel mills	3	2	756.1	1.3231	99
3317		Steel pipe & tubes	16	8	201.8	5.5757	90
3411		Metal cans	5	4	215.1	2.5137	98
3441		Fabricated structural metal	28	9	192.2	2.7584	77
3443		Fabricated plate work (boiler shops)	53	19	478.4	4.7958	77
3444		Sheet-metal work	32	8	146.6	2.2596	56
3448		Prefabricated metal buildings	17	10	271.5	10.9839	91
3449		Miscellaneous metal work	15	5	84.7	4.9730	69
3452		Bolts, nuts, rivets, & washers	13	4	91.0	2.0528	67
3462		Iron & steel forgings	6	3	109.6	2.7736	86
3463		Nonferrous forgings	1	1	133.3	20.1878	100
3479		Metal coating & allied services n.e.c.	16	5	161.5	7.3050	82
3494		Valves & pipe fittings	67	22	713.2	9.1453	76
3496		Miscellaneous fabricated wire products	14	3	33.8	1.6792	52
3498		Fabricated pipe & fittings	20	5	188.8	7.8673	67
3519		Internal-combustion engines n.e.c.	4	2	151.3	1.3226	89
3533		Oil-field machinery	70	31	1,683.7	27.4428	90
3536		Hoists, industrial cranes, & monorails	6	4	80.7	5.8263	96
3561		Pumps & pumping equipment	13	3	59.5	1.4969	56
3564		Blowers & exhaust & ventilation fans	10	3	39.8	2.6892	66
3573		Electronic computing equipment	5	3	179.0	.6126	96
3599		Machinery, except electrical, n.e.c.	42	4	185.1	1.3878	33
3662		Radio & TV communication equipment	9	3	106.1	.4405	77
3674		Semiconductors & related devices	1	1	166.8	1.7711	100
3731		Ship building & repairing	12	5	171.2	1.4315	86
3811		Engineering & scientific instruments	8	3	85.0	2.4852	85
3823		Industrial process-control instruments	17	4	77.1	2.6310	59
Harrison	159	All mfg.	38	10	354.5	.0184	67
3483		Ammunition, except small-arms, n.e.c.	2	1	43.3	4.5331	97
Hays	22	All mfg.	17	3	99.9	.0052	40
Hemphill		All mfg.	1		4.3	.0002	0
Henderson		All mfg.	14	5	141.7	.0074	86
Hidalgo	165	All mfg.	70	27	726.6	.0377	74
2033		Canned fruits & vegetables	8	7	105.0	1.3187	98
2327		Men's & boys' separate trousers	2	2	38.8	1.5692	100
Hill		All mfg.	14	5	112.9	.0059	70
Hockley		All mfg.	4		24.4	.0013	0
Hood	70	All mfg.	4		37.3	.0019	0
Hopkins		All mfg.	17	5	207.5	.0108	54
Houston		All mfg.	19	7	302.1	.0157	82
2621		Paper mills, except building paper	1	1	48.4	.7821	100
Howard		All mfg.	24	6	1,04[illegible].2	.0541	94
Hunt		All mfg.	32	17	592.4	.0308	91
2341		Women's & children's underwear	4	3	71.9	2.7855	99
3721		Aircraft	2	2	233.9	.9389	100
Hutchinson		All mfg.	17	5	771.2	.0400	91
Jack		All mfg.	4		9.0	.0005	0
Jasper		All mfg.	11	5	127.3	.0066	89
Jefferson	29	All mfg.	107	47	19,984.7	1.0376	99
2822		Synthetic rubber	3	3	181.8	6.3378	100
2869		Industrial organic chemicals n.e.c.	10	7	1,193.7	3.4342	97
2911		Petroleum refining	6	6	17,522.8	9.9784	100
3731		Ship building & repairing	2	2	180.7	1.5110	100
Jim Wells		All mfg.	11	2	78.0	.0040	18
Johnson	70	All mfg.	42	13	321.6	.0167	76
Jones	1	All mfg.	5	2	45.5	.0024	36
Karnes		All mfg.	6	1	48.0	.0025	48
Kaufman	70	All mfg.	25	9	130.3	.0068	64
Kendall		All mfg.	2	1	15.2	.0008	73
Kerr		All mfg.	11	4	87.1	.0045	81
Kimble		All mfg.	2	1	16.2	.0008	46
Kleberg		All mfg.	3	1	27.8	.0014	79
Lamar		All mfg.	24	12	443.4	.0230	88
Lamb		All mfg.	2	1	27.1	.0014	96
Lampasas		All mfg.	5	3	34.7	.0018	73
Lavaca		All mfg.	24	8	169.0	.0088	39
Lee		All mfg.	3	1	21.7	.0011	60
Leon		All mfg.	3	2	75.9	.0039	93
Liberty	120	All mfg.	16	4	192.5	.0100	72
Limestone		All mfg.	9	5	56.3	.0029	77
Live Oak		All mfg.	3		149.4	.0078	0
Llano		All mfg.	1		1.4	.0001	0
Lubbock	163	All mfg.	96	27	1,056.3	.0548	76
3531		Construction machinery	3	2	144.4	.7025	93
3873		Watches, clocks, & watchcases	1	1	71.7	3.4093	100
McCulloch		All mfg.	8	1	32.5	.0017	53
McLennan	290	All mfg.	134	46	1,262.1	.0655	77
3011		Tires & inner tubes	1	1	189.3	1.7378	100
3221		Glass containers	1	1	84.4	2.3203	100
Madison		All mfg.	3	2	20.6	.0011	89
Marion		All mfg.	4		13.3	.0007	0
Martin		All mfg.	1		3.5	.0002	0
Matagorda		All mfg.	7	3	186.9	.0097	90
Maverick		All mfg.	8	5	120.5	.0063	79
2328		Men's & boys' work clothing	4	4	85.1	1.5816	100
Medina		All mfg.	5	3	67.7	.0035	83
Midland	174	All mfg.	25	9	256.0	.0133	84
3574		Calculating & accounting machines	1	1	86.3	4.5873	100
Milam		All mfg.	11	4	295.5	.0153	89
3334		Primary aluminum	1	1	241.5	4.1188	100
Mills		All mfg.	2		4.0	.0002	0
Mitchell		All mfg.	1	1	9.4	.0005	100
Montague		All mfg.	17	6	68.7	.0036	57
Montgomery	120	All mfg.	29	5	211.4	.0110	47
Moore		All mfg.	12	3	685.3	.0356	90
Morris		All mfg.	13	2	718.1	.0373	94
3312		Blast furnaces & steel mills	1	1	662.1	1.1586	100
Nacogdoches		All mfg.	22	10	269.5	.0140	79
Navarro		All mfg.	30	10	244.8	.0127	66
Newton		All mfg.	4	1	105.6	.0055	88
Nolan		All mfg.	14	7	216.1	.0112	87
Nueces	68	All mfg.	87	26	4,033.0	.2094	88
2911		Petroleum refining	8	5	3,193.1	1.8183	92
Ochiltree		All mfg.	2	1	42.1	.0022	92
Orange	29	All mfg.	36	11	1,232.2	.0640	88
2821		Plastics materials & synthetic resins	4	2	509.0	3.1117	96
2822		Synthetic rubber	3	2	168.1	5.8602	97
3317		Steel pipe & tubes	1	1	93.9	2.5944	100
3731		Ship building & repairing	3	1	195.1	1.6314	94

DEFINITIONS—**SIC Industry:** Classification by plant's primary product. **N.E.C.:** Not elsewhere classified. **Metro Area Code:** Metro market that county belongs to; see list, page 59. **Total Plants:** 20 + employees. **Large Plants:** 100 + employees. **All mfg.:** Total for all plants with 20 + employees in the county. **Shipments:** Dollar value of all goods produced. **% Of U.S.:** Boldface refers to county's share of total U.S. shipments; lightface to the SIC industry in the county and its share of the industry's total U.S. shipments. **% In Large Plants:** Share of shipments (rounded) from plants with 100 + employees; if the share is 99.5% or more, it shows as 100%.

County SIC	Metro Area	Industry	Total Plants	Large Plants	Total Shipments ($ Mil.)	% Of U.S. Shipments	% In Large Plants
			Number Of Plants		1981 (S&MM Est.)		
Palo Pinto		**All mfg.**	**24**	**8**	**122.5**	**.0064**	**67**
Panola		**All mfg.**	**8**	**5**	**74.8**	**.0039**	**85**
Parker	**70**	**All mfg.**	**15**	**2**	**62.6**	**.0033**	**34**
Parmer		**All mfg.**	**5**	**1**	**189.3**	**.0098**	**83**
Pecos		**All mfg.**	**1**		**2.4**	**.0001**	**0**
Polk		**All mfg.**	**6**	**5**	**107.2**	**.0056**	**94**
Potter	**9**	**All mfg.**	**76**	**17**	**1,465.0**	**.0761**	**85**
2011		Meat-packing plants	3	1	494.0	1.1633	91
3489		Ordnance & accessories n.e.c.	1	1	114.0	12.3550	100
Rains		**All mfg.**	**3**		**8.5**	**.0004**	**0**
Randall	**9**	**All mfg.**	**5**	**1**	**49.8**	**.0026**	**34**
Red River		**All mfg.**	**10**	**5**	**67.0**	**.0035**	**79**
Reeves		**All mfg.**	**2**		**16.0**	**.0008**	**0**
Robertson		**All mfg.**	**7**	**1**	**81.5**	**.0042**	**13**
Rockwall	**70**	**All mfg.**	**3**	**1**	**60.5**	**.0031**	**89**
Runnels		**All mfg.**	**10**	**1**	**119.2**	**.0062**	**21**
Rusk		**All mfg.**	**22**	**4**	**166.5**	**.0086**	**30**
Sabine		**All mfg.**	**1**	**1**	**20.2**	**.0010**	**100**
San Augustine		**All mfg.**	**2**		**8.0**	**.0004**	**0**
San Patricio	**68**	**All mfg.**	**20**	**6**	**373.3**	**.0194**	**36**
San Saba		**All mfg.**	**2**		**4.8**	**.0002**	**0**
Scurry		**All mfg.**	**8**	**3**	**54.2**	**.0028**	**67**
Shackelford		**All mfg.**	**2**		**6.7**	**.0003**	**0**
Shelby		**All mfg.**	**12**	**4**	**226.1**	**.0117**	**88**
Sherman		**All mfg.**	**2**		**9.6**	**.0005**	**0**
Smith	**284**	**All mfg.**	**67**	**19**	**1,942.0**	**.1008**	[illegible]
3011		Tires & inner tubes	2	2	421.0	3.8648	100
3321		Gray-iron foundries	1	1	142.1	1.6666	100
3585		Refrigeration & heating equipment	2	2	546.7	2.6133	100
Stephens		**All mfg.**	**7**	**2**	**56.2**	**.0029**	**64**
Swisher		**All mfg.**	**6**	**1**	**34.6**	**.0018**	**24**
Tarrant	**70**	**All mfg.**	**636**	**171**	**8,359.7**	**.4340**	**76**
2451		Mobile homes	10	5	110.2	2.9968	81
2711		Newspapers	8	4	112.9	.6174	88
3069		Fabricated rubber products n.e.c.	11	3	53.1	1.0834	72
3079		Miscellaneous plastics products	35	9	190.1	.6960	55
3325		Steel foundries n.e.c.	1	1	88.1	3.2417	100
3441		Fabricated structural metal	13	5	58.1	.8338	64
3444		Sheet-metal work	20	4	72.9	1.1236	43
3483		Ammunition, except small-arms, n.e.c.	1	1	50.4	5.2764	100
3585		Refrigeration & heating equipment	18	5	441.6	2.1109	76
3662		Radio & TV communication equipment	4	2	159.4	.6619	94
3679		Electronic components n.e.c.	7	3	42.4	.4472	85
3711		Motor vehicles & passenger-car bodies	3	1	1,359.9	1.5478	98
3714		Motor-vehicle parts & accessories	7	1	106.1	.2573	70
3721		Aircraft	4	3	1,526.8	6.1285	100
3728		Aircraft equipment n.e.c.	7	5	91.5	1.1421	93
Taylor	**1**	**All mfg.**	**58**	**14**	**667.0**	**.0346**	**45**
Terry		**All mfg.**	**4**	**1**	**62.5**	**.0032**	**79**
Titus		**All mfg.**	**8**	**3**	**207.2**	**.0108**	**26**
Tom Green	**246**	**All mfg.**	**32**	**12**	**381.2**	**.0198**	**72**
3842		Surgical appliances & supplies	1	1	74.8	1.6046	100
Travis	**22**	**All mfg.**	**156**	**25**	**1,816.5**	**.0943**	**74**
3572		Typewriters	1	1	467.9	15.0663	100
3573		Electronic computing equipment	3	1	323.5	1.1072	96
3662		Radio & TV communication equipment	7	3	134.7	.5593	85
3674		Semiconductors & related devices	2	2	95.1	1.0098	100
Trinity		**All mfg.**	**5**	**1**	**158.8**	**.0082**	**7**
Tyler		**All mfg.**	**10**	**1**	**81.9**	**.0043**	**23**
Upshur		**All mfg.**	**5**	**2**	**40.3**	**.0021**	**49**
Uvalde		**All mfg.**	**8**	**2**	**42.9**	**.0022**	**37**
Val Verde		**All mfg.**	**6**	**2**	**114.8**	**.0060**	**91**
Van Zandt		**All mfg.**	**9**	**3**	**65.6**	**.0034**	**67**
Victoria	**287**	**All mfg.**	**19**	**6**	**317.4**	**.0165**	**84**
2821		Plastics materials & synthetic resins	1	1	199.0	1.2165	100
Walker		**All mfg.**	**9**		**26.6**	**.0014**	**0**
Waller	**120**	**All mfg.**	**1**		**8.8**	**.0005**	**0**
Ward		**All mfg.**	**1**		**5.8**	**.0003**	**0**
Washington		**All mfg.**	**19**	**4**	**76.3**	**.0040**	**52**
Webb	**148**	**All mfg.**	**25**	**8**	**212.1**	**.0110**	**66**
Wharton		**All mfg.**	**11**	**4**	**78.4**	**.0041**	**60**
Wheeler		**All mfg.**	**1**		**14.8**	**.0008**	**0**
Wichita	**297**	**All mfg.**	**70**	**27**	**797.6**	**.0414**	**78**
3211		Flat glass	1	1	82.5	3.5693	100
Wilbarger		**All mfg.**	**6**	**3**	**52.9**	**.0027**	**55**
Willacy		**All mfg.**	**6**	**2**	**35.7**	**.0019**	**49**
Williamson	**22**	**All mfg.**	**38**	**10**	**279.5**	**.0145**	**65**
Wilson		**All mfg.**	**3**	**1**	**15.9**	**.0008**	**52**
Winkler		**All mfg.**	**2**		**3.4**	**.0002**	**0**
Wise	**70**	**All mfg.**	**14**	**2**	**46.2**	**.0024**	**23**
Wood		**All mfg.**	**8**	**3**	**79.2**	**.0041**	**59**
Yoakum		**All mfg.**	**1**		**6.1**	**.0003**	**0**
Young		**All mfg.**	**11**	**5**	**85.2**	**.0044**	**62**
Zavala		**All mfg.**	**1**	**1**	**51.6**	**.0027**	**100**
State Total		**All mfg.**	**7,083**	**2,140**	**131,087.2**	**6.8062**	**83**
UTAH							
Beaver		**All mfg.**	**1**		**2.2**	**.0001**	**0**
Box Elder		**All mfg.**	**14**	**6**	**285.0**	**.0148**	**93**
3724		Aircraft engines & engine parts	1	1	186.3	1.5766	100
Cache		**All mfg.**	**33**	**12**	**760.7**	**.0395**	**83**
2022		Natural & processed cheese	5	3	365.4	3.7934	90
Carbon		**All mfg.**	**4**	**2**	**17.3**	**.0009**	**77**
Davis	**245**	**All mfg.**	**51**	**15**	**952.8**	**.0495**	**49**
Duchesne		**All mfg.**	**3**		**7.2**	**.0004**	**0**
Emery		**All mfg.**	**1**		**5.5**	**.0003**	**0**
Garfield		**All mfg.**	**1**	**1**	**17.5**	**.0009**	**100**
Grand		**All mfg.**	**2**	**1**	**15.8**	**.0008**	**91**
Iron		**All mfg.**	**6**	**1**	**43.5**	**.0023**	**30**
Juab		**All mfg.**	**5**	**3**	**38.2**	**.0020**	**92**
Kane		**All mfg.**	**1**		**3.6**	**.0002**	**0**
Millard		**All mfg.**	**4**		**13.0**	**.0007**	**0**
Morgan		**All mfg.**	**4**	**1**	**33.1**	**.0017**	**76**
Piute		**All mfg.**	**1**	**1**	**10.4**	**.0005**	**100**
Rich		**All mfg.**	**1**		**6.0**	**.0003**	**0**
Salt Lake	**245**	**All mfg.**	**428**	**99**	**6,016.8**	**.3124**	**79**
2026		Fluid milk	7	4	224.9	1.2489	89
2331		Women's & misses' blouses	2	2	68.8	2.0756	100
2711		Newspapers	4	3	69.5	.3801	94
2819		Industrial inorganic chemicals n.e.c.	3	2	192.6	1.5500	97
3331		Primary copper	1	1	456.8	9.5296	100
3441		Fabricated structural metal	21	4	79.1	1.1352	51
3532		Mining machinery	4	2	93.4	2.6674	91
3573		Electronic computing equipment	4	3	431.5	1.4768	99
3589		Service-industry machinery n.e.c.	1	1	147.5	4.0736	100
3724		Aircraft engines & engine parts	1	1	217.4	1.8398	100
3841		Surgical & medical instruments	4	2	169.2	5.2844	97
San Juan		**All mfg.**	**6**	**1**	**34.0**	**.0018**	**15**
Sanpete		**All mfg.**	**9**	**3**	**48.1**	**.0025**	**60**
Sevier		**All mfg.**	**10**	**1**	**101.3**	**.0053**	**18**
Summit		**All mfg.**	**7**	**1**	**46.7**	**.0024**	**52**
Tooele	**245**	**All mfg.**	**8**	**1**	**41.7**	**.0022**	**20**
Uintah		**All mfg.**	**3**		**6.4**	**.0003**	**0**
Utah	**222**	**All mfg.**	**89**	**25**	**1,401.0**	**.0727**	**80**
3312		Blast furnaces & steel mills	1	1	827.5	1.4481	100
Wasatch		**All mfg.**	**4**	**1**	**27.6**	**.0014**	**43**
Washington		**All mfg.**	**6**	**2**	**34.6**	**.0018**	**63**
Weber	**245**	**All mfg.**	**67**	**23**	**710.3**	**.0369**	**71**
State Total		**All mfg.**	**769**	**200**	**10,680.3**	**.5545**	**75**
VERMONT							
Addison		**All mfg.**	**16**	**6**	**165.1**	**.0086**	**72**
Bennington		**All mfg.**	**42**	**16**	**343.5**	**.0178**	**75**
Caledonia		**All mfg.**	**24**	**5**	**133.5**	**.0069**	**51**
Chittenden	**48**	**All mfg.**	**61**	**21**	**599.7**	**.0311**	**73**
3679		Electronic components n.e.c.	4	2	175.5	1.8510	98
Essex		**All mfg.**	**4**	**3**	**52.1**	**.0027**	**98**
Franklin		**All mfg.**	**27**	**7**	**296.7**	**.0154**	**70**
Grand Isle		**All mfg.**	**1**		**.8**	**.0000**	**0**

1981 (S&MM Est.)

VERMONT (cont.)

County SIC	Metro Area	Industry	Number Of Plants Total Plants	 Large Plants	Total Shipments ($ Mil.)	% Of U.S. Shipments	% In Large Plants
Lamoille		**All mfg.**	**12**		**21.1**	**.0011**	**0**
Orange		**All mfg.**	**18**	**6**	**107.0**	**.0056**	**56**
Orleans		**All mfg.**	**18**	**6**	**144.3**	**.0075**	**53**
Rutland		**All mfg.**	**44**	**12**	**415.3**	**.0216**	**76**
3724		Aircraft engines & engine parts	2	1	193.7	1.6393	96
Washington		**All mfg.**	**53**	**7**	**169.7**	**.0088**	**42**
3281		Cut stone & stone products	28	4	49.7	8.5942	47
Windham		**All mfg.**	**45**	**12**	**377.0**	**.0196**	**72**
Windsor		**All mfg.**	**37**	**12**	**227.4**	**.0118**	**71**
3541		Metal-cutting machine tools	4	4	96.1	3.6916	100
State Total		**All mfg.**	**402**	**113**	**3,053.2**	**.1585**	**69**

VIRGINIA

County SIC	Metro Area	Industry	Number Of Plants Total Plants	 Large Plants	Total Shipments ($ Mil.)	% Of U.S. Shipments	% In Large Plants
Accomack		**All mfg.**	**19**	**6**	**218.1**	**.0113**	**78**
2016		Poultry-dressing plants	2	2	132.2	1.6878	100
Albemarle	**56**	**All mfg.**	**34**	**17**	**596.3**	**.0310**	**92**
2037		Frozen fruits & vegetables	1	1	76.5	1.7706	100
3662		Radio & TV communication equipment	1	1	88.3	.3667	100
Alleghany		**All mfg.**	**10**	**5**	**564.7**	**.0293**	**97**
2631		Paperboard mills	1	1	261.8	2.4456	100
2819		Industrial inorganic chemicals n.e.c.	2		230.5	1.8550	98
Amelia		**All mfg.**	**6**	**1**	**19.7**	**.0010**	**37**
Amherst	**164**	**All mfg.**	**15**	**3**	**91.7**	**.0048**	**71**
Appomattox	**164**	**All mfg.**	**8**	**4**	**61.9**	**.0032**	**81**
Arlington	**291**	**All mfg.**	**69**	**12**	**437.7**	**.0227**	**65**
2731		Book publishing	1	1	103.9	1.5004	100
Augusta		**All mfg.**	**49**	**15**	**1,003.4**	**.0521**	**90**
2311		Men's & boys' suits & coats	2	1	42.5	1.0327	93
2824		Noncellulosic synthetic organic fibers	2	2	456.2	4.5008	100
3613		Switchgear & switchboard apparatus	2	1	142.7	2.8104	97
Bath		**All mfg.**	**2**		**3.4**	**.0002**	**0**
Bedford		**All mfg.**	**20**	**7**	**248.1**	**.0129**	**69**
3069		Fabricated rubber products n.e.c.	1	1	56.5	1.1528	100
Bland		**All mfg.**	**1**	**1**	**10.4**	**.0005**	**100**
Botetourt	**232**	**All mfg.**	**11**	**5**	**95.7**	**.0050**	**84**
Brunswick		**All mfg.**	**13**	**4**	**93.5**	**.0049**	**46**
Buchanan		**All mfg.**	**5**		**18.5**	**.0010**	**0**
Buckingham		**All mfg.**	**4**	**1**	**16.1**	**.0008**	**65**
Campbell	**164**	**All mfg.**	**101**	**40**	**1,630.3**	**.0846**	**84**
2492		Particleboard	1	1	71.6	12.7266	100
2819		Industrial inorganic chemicals n.e.c.	1	1	132.5	1.0663	100
3321		Gray-iron foundries	3	3	184.1	2.1592	100
3662		Radio & TV communication equipment	1	1	353.2	1.4666	100
Caroline		**All mfg.**	**13**	**1**	**42.8**	**.0022**	**14**
Carroll		**All mfg.**	**12**	**4**	**103.0**	**.0053**	**82**
Charlotte		**All mfg.**	**10**	**4**	**73.9**	**.0038**	**77**
Chesterfield	**230**	**All mfg.**	**26**	**6**	**364.2**	**.0189**	**80**
Clarke		**All mfg.**	**3**	**3**	**65.1**	**.0034**	**100**
Culpeper		**All mfg.**	**12**	**7**	**98.4**	**.0051**	**80**
Dickenson		**All mfg.**	**1**	**1**	**13.6**	**.0007**	**100**
Dinwiddie	**211**	**All mfg.**	**41**	**13**	**1,352.2**	**.0702**	**92**
2111		Cigarettes	2	2	1,065.2	11.2089	100
Essex		**All mfg.**	**6**	**2**	**63.0**	**.0033**	**78**
Fairfax	**291**	**All mfg.**	**114**	**36**	**933.7**	**.0485**	**70**
3662		Radio & TV communication equipment	16	7	227.8	.9459	88
Fauquier		**All mfg.**	**10**	**1**	**37.4**	**.0019**	**21**
Floyd		**All mfg.**	**7**	**3**	**48.5**	**.0025**	**74**
Fluvanna	**56**	**All mfg.**	**3**	**1**	**43.9**	**.0023**	**79**
Franklin		**All mfg.**	**25**	**11**	**276.8**	**.0144**	**82**
Frederick		**All mfg.**	**51**	**22**	**612.7**	**.0318**	**83**
Giles		**All mfg.**	**9**	**4**	**208.2**	**.0108**	**89**
2823		Cellulosic man-made fibers	1	1	156.0	9.7947	100
Gloucester	**193**	**All mfg.**	**10**		**28.4**	**.0015**	**0**
Goochland	**230**	**All mfg.**	**2**		**4.7**	**.0002**	**0**
Grayson		**All mfg.**	**29**	**12**	**270.8**	**.0141**	**76**
2511		Wood household furniture	3	3	56.7	1.1119	100
Greensville		**All mfg.**	**18**	**9**	**142.5**	**.0074**	**84**
Halifax		**All mfg.**	**18**	**11**	**225.7**	**.0117**	**87**
Hampton Ind. City	**193**	**All mfg.**	**45**	**11**	**346.3**	**.0180**	**60**
Hanover	**230**	**All mfg.**	**33**	**3**	**139.2**	**.0072**	**24**
Henrico	**230**	**All mfg.**	**280**	**84**	**5,044.9**	**.2619**	**86**
2052		Cookies & crackers	3	3	157.9	4.5301	100
2111		Cigarettes	1	1	1,463.7	15.4022	100
2643		Bags, except textile bags	6	3	106.8	2.2352	83
2751		Letterpress commercial printing	12	2	42.3	.6889	69
2752		Lithographic commercial printing	17	3	128.4	.9638	53
2824		Noncellulosic synthetic organic fibers	2	1	467.0	4.6074	98
2834		Pharmaceutical preparations	2	1	182.0	1.1076	97
3079		Miscellaneous plastics products	7	2	131.9	.4829	86
3559		Special-industry machinery n.e.c.	9	4	94.8	1.2365	74
3661		Telephone & telegraph apparatus	2	2	97.2	.7463	100
Henry		**All mfg.**	**55**	**32**	**1,604.4**	**.0833**	**96**
2211		Cotton-weaving mills	1	1	50.4	.9200	100
2253		Knit-outerwear mills	4	4	155.6	5.6210	100
2321		Men's & boys' shirts & nightwear	1	1	66.0	1.5800	100
2492		Particleboard	1	1	43.6	7.7497	100
2511		Wood household furniture	8	7	299.1	5.8655	100
2824		Noncellulosic synthetic organic fibers	1	1	629.1	6.2067	100
Highland		**All mfg.**	**2**	**1**	**7.8**	**.0004**	**67**
Isle of Wight		**All mfg.**	**6**	**3**	**648.0**	**.0336**	**97**
2011		Meat-packing plants	2	2	613.8	1.4454	100
James City	**193**	**All mfg.**	**5**	**2**	**36.0**	**.0019**	**69**
King and Queen		**All mfg.**	**4**		**23.6**	**.0012**	**0**
King George		**All mfg.**	**5**	**2**	**88.8**	**.0046**	**92**
King William		**All mfg.**	**4**	**1**	**136.7**	**.0071**	**82**
Lancaster		**All mfg.**	**20**		**72.9**	**.0038**	**0**
Lee		**All mfg.**	**7**	**3**	**45.2**	**.0023**	**65**
Loudoun	**291**	**All mfg.**	**20**	**3**	**87.7**	**.0046**	**27**
Louisa		**All mfg.**	**10**	**4**	**80.0**	**.0042**	**84**
Lunenberg		**All mfg.**	**16**	**7**	**95.1**	**.0049**	**71**
Madison		**All mfg.**	**6**	**1**	**26.6**	**.0014**	**61**
Mathews		**All mfg.**	**1**		**3.0**	**.0002**	**0**
Mecklenburg		**All mfg.**	**25**	**13**	**226.1**	**.0117**	**83**
Middlesex		**All mfg.**	**6**		**19.5**	**.0010**	**0**
Montgomery		**All mfg.**	**35**	**18**	**672.8**	**.0349**	**88**
2892		Explosives	1	1	294.4	27.9105	100
3621		Motors & generators	4	4	84.1	1.3008	100
Nelson		**All mfg.**	**6**	**1**	**15.3**	**.0008**	**33**
New Kent	**230**	**All mfg.**	**5**		**28.3**	**.0015**	**0**
Newport News I. C.	**193**	**All mfg.**	**42**	**18**	**1,839.3**	**.0955**	**96**
3731		Ship building & repairing	2	2	1,428.9	11.9482	100
Norfolk	**195**	**All mfg.**	**189**	**56**	**2,776.7**	**.1442**	**80**
2435		Hardwood veneer & plywood	5	4	61.7	3.8390	95
2711		Newspapers	2	1	63.8	.3489	93
3651		Radio & TV receiving sets	1	1	334.8	3.8703	100
3711		Motor vehicles & passenger-car bodies	1	1	595.3	.6776	100
3731		Ship building & repairing	13	8	311.7	2.6064	94
Northampton		**All mfg.**	**11**	**6**	**87.7**	**.0046**	**83**
Northumberland		**All mfg.**	**15**	**1**	**146.4**	**.0076**	**56**
Nottoway		**All mfg.**	**14**	**6**	**92.0**	**.0048**	**71**
Orange		**All mfg.**	**19**	**6**	**180.3**	**.0094**	**78**
Page		**All mfg.**	**10**	**5**	**211.6**	**.0110**	**92**
2328		Men's & boys' work clothing	2	1	102.1	1.8976	95
Patrick		**All mfg.**	**7**	**5**	**63.8**	**.0033**	**93**
Pittsylvania	**71**	**All mfg.**	**52**	**24**	**990.8**	**.0514**	**90**
2211		Cotton-weaving mills	1	1	138.9	2.5354	100
3011		Tires & inner tubes	1	1	251.9	2.3125	100
3524		Lawn & garden equipment	1	1	63.5	3.3234	100
Powhatan	**230**	**All mfg.**	**5**		**13.6**	**.0007**	**0**
Prince Edward		**All mfg.**	**8**	**4**	**64.4**	**.0033**	**86**
Prince George	**211**	**All mfg.**	**19**	**9**	**1,577.1**	**.0819**	**97**

DEFINITIONS—**SIC Industry:** Classification by plant's primary product. **N.E.C.:** Not elsewhere classified. **Metro Area Code:** Metro market that county belongs to; see list, page 59. **Total Plants:** 20 + employees. **Large Plants:** 100 + employees. **All mfg.:** Total for all plants with 20 + employees in the county. **Shipments:** Dollar value of all goods produced. **% Of U.S.:** Boldface refers to county's share of total U.S. shipments; lightface to the SIC industry in the county and its share of the industry's total U.S. shipments. **% In Large Plants:** Share of shipments (rounded) from plants with 100 + employees; if the share is 99.5% or more, it shows as 100%.

County SIC	Metro Area	Industry	Number Of Plants		1981 (S&MM Est.) Total Shipments ($ Mil.)	% Of U.S. Shipments	% In Large Plants
			Total Plants	Large Plants			
2824		Noncellulosic synthetic organic fibers	2	2	401.0	3.9562	100
2869		Industrial organic chemicals n.e.c.	2	2	855.8	2.4621	100
Prince William	**291**	**All mfg.**	**27**	**4**	**327.9**	**.0170**	**76**
3679		Electronic components n.e.c.	1	1	81.7	.8617	100
Pulaski		**All mfg.**	**23**	**10**	**265.7**	**.0138**	**85**
2511		Wood household furniture	3	2	86.4	1.6944	98
Rappahannock		**All mfg.**	**1**	**1**	**10.8**	**.0006**	**100**
Richmond		**All mfg.**	**6**	**1**	**35.9**	**.0019**	**54**
Roanoke	**232**	**All mfg.**	**140**	**45**	**1,683.9**	**.0874**	**79**
2511		Wood household furniture	2	2	54.5	1.0688	100
3622		Industrial controls	1	1	180.9	5.2166	100
Rockbridge		**All mfg.**	**18**	**6**	**207.6**	**.0108**	**75**
2272		Tufted carpets & rugs	1	1	109.6	2.0575	100
Rockingham		**All mfg.**	**56**	**25**	**714.1**	**.0371**	**83**
2016		Poultry-dressing plants	4	4	161.5	2.0618	100
Russell		**All mfg.**	**5**	**2**	**33.3**	**.0017**	**73**
Scott	**131**	**All mfg.**	**7**	**4**	**73.0**	**.0038**	**81**
Shenandoah		**All mfg.**	**33**	**11**	**288.5**	**.0150**	**74**
Smyth		**All mfg.**	**28**	**19**	**362.1**	**.0188**	**86**
Southampton		**All mfg.**	**23**	**9**	**420.2**	**.0218**	**87**
2492		Particleboard	1	1	31.2	5.5457	100
2621		Paper mills, except building paper	1	1	168.7	.8891	100
Spotsylvania		**All mfg.**	**34**	**9**	**195.2**	**.0101**	**63**
Stafford		**All mfg.**	**3**		**8.7**	**.0005**	**0**
Suffolk Ind. City	**195**	**All mfg.**	**38**	**5**	**325.0**	**.0169**	**49**
2065		Confectionery products	3	2	128.9	2.2391	94
Surry		**All mfg.**	**3**		**37.0**	**.0019**	**0**
Sussex		**All mfg.**	**8**	**3**	**36.4**	**.0019**	**59**
Tazewell		**All mfg.**	**59**	**15**	**376.9**	**.0196**	**60**
Warren		**All mfg.**	**9**	**3**	**227.0**	**.0118**	**93**
2823		Cellulosic man-made fibers	1	1	172.6	10.8369	100
Washington	**131**	**All mfg.**	**56**	**28**	**654.4**	**.0340**	**96**
Westmoreland		**All mfg.**	**16**	**3**	**86.7**	**.0045**	[illegible]
Wise		**All mfg.**	**15**	**3**	**250.8**	**.0130**	**78**
3312		Blast furnaces & steel mills	2	1	177.1	.3099	93
Wythe		**All mfg.**	**17**	**8**	**100.3**	**.0052**	**77**
York	**193**	**All mfg.**	**14**	**6**	**736.6**	**.0382**	**97**
State Total		**All mfg.**	**2,413**	**821**	**35,068.9**	**1.8208**	**83**

WASHINGTON

County SIC	Metro Area	Industry	Total Plants	Large Plants	Total Shipments ($ Mil.)	% Of U.S. Shipments	% In Large Plants
Adams		**All mfg.**	**2**	**1**	**59.9**	**.0031**	**96**
Asotin		**All mfg.**	**2**		**10.9**	**.0006**	**0**
Benton	**229**	**All mfg.**	**20**	**6**	**197.4**	**.0102**	**70**
Chelan		**All mfg.**	**28**	**9**	**354.7**	**.0184**	**78**
3334		Primary aluminum	2	1	169.1	2.8840	95
Clallam		**All mfg.**	**22**	**5**	**326.0**	**.0169**	**66**
Clark	**218**	**All mfg.**	**54**	**18**	**1,278.7**	**.0664**	**88**
2621		Paper mills, except building paper	2	2	556.5	2.9328	100
3334		Primary aluminum	1	1	281.8	4.8062	100
Columbia		**All mfg.**	**1**	**1**	**7.3**	**.0004**	**100**
Cowlitz		**All mfg.**	**39**	**14**	**1,145.6**	**.0595**	**88**
2421		General sawmills & planing mills	3	1	168.2	1.2433	91
2621		Paper mills, except building paper	2	2	210.3	1.1083	100
2631		Paperboard mills	1	1	174.5	1.6301	100
3334		Primary aluminum	1	1	161.1	2.7476	100
Douglas		**All mfg.**	**1**	**1**	**18.6**	**.0010**	**100**
Ferry		**All mfg.**	**2**		**16.0**	**.0008**	**0**
Franklin	**229**	**All mfg.**	**11**	**5**	**155.5**	**.0081**	**81**
2037		Frozen fruits & vegetables	2	2	84.0	1.9442	100
Grant		**All mfg.**	**16**	**4**	**278.6**	**.0145**	**87**
Grays Harbor		**All mfg.**	**46**	**19**	**1,713.2**	**.0890**	**95**
2411		Logging camps & contractors	5	3	1,065.5	13.1908	98
2611		Pulp mills	2	2	235.4	7.5526	100
Island		**All mfg.**	**5**	**2**	**49.9**	**.0026**	**79**
Jefferson		**All mfg.**	**5**	**2**	**96.7**	**.0050**	**80**
King	**256**	**All mfg.**	**722**	**161**	**13,365.8**	**.6940**	**86**
2026		Fluid milk	7	5	282.2	1.5671	93
2051		Bread, cake, & related products	10	7	126.8	1.1054	96
2086		Bottled & canned soft drinks	8	2	136.5	.9281	74
2091		Canned & cured seafoods	8	3	124.4	7.4755	81

County SIC	Metro Area	Industry	Number Of Plants		1981 (S&MM Est.) Total Shipments ($ Mil.)	% Of U.S. Shipments	% In Large Plants
			Total Plants	Large Plants			
2329		Men's & boys' clothing n.e.c.	7	5	33.0	2.1772	91
2711		Newspapers	11	4	175.3	.9587	91
2751		Letterpress commercial printing	22	3	49.6	.8078	42
3273		Ready-mixed concrete	12	4	132.6	1.4676	74
3312		Blast furnaces & steel mills	2	2	267.1	.4674	100
3441		Fabricated structural metal	12	3	69.0	.9903	70
3599		Machinery, except electrical, n.e.c.	29	2	108.8	.8158	28
3662		Radio & TV communication equipment	10	5	658.1	2.7327	98
3713		Truck & bus bodies	4	1	61.4	1.5710	91
3721		Aircraft	5	4	4,377.8	17.5721	100
3728		Aircraft equipment n.e.c.	18	4	775.1	9.6751	95
3731		Ship building & repairing	9	5	439.7	3.6767	96
3732		Boat building & repairing	8	2	74.2	3.6139	86
3743		Railroad equipment	1	1	156.3	2.9211	100
3761		Guided missiles & space vehicles	2	2	1,571.3	21.3448	100
3769		Space-vehicle equipment n.e.c.	2	2	253.1	25.0867	100
Kitsap	**42**	**All mfg.**	**12**	**3**	**57.8**	**.0030**	**52**
Kittitas		**All mfg.**	**10**	**4**	**126.3**	**.0066**	**70**
Klickitat		**All mfg.**	**7**	**4**	**197.4**	**.0102**	**90**
Lewis		**All mfg.**	**41**	**17**	**587.9**	**.0305**	**83**
Lincoln		**All mfg.**	**1**	**1**	**11.4**	**.0006**	**100**
Mason		**All mfg.**	**10**	**3**	**137.2**	**.0071**	**71**
2661		Building-paper & building-board mills	1	1	84.3	14.1443	100
Okanogan		**All mfg.**	**12**	**2**	**179.7**	**.0093**	**50**
2421		General sawmills & planing mills	3	2	92.0	.6776	97
Pacific		**All mfg.**	**10**	**2**	**107.7**	**.0056**	**30**
Pend Oreille		**All mfg.**	**5**	**1**	**51.3**	**.0027**	**62**
Pierce	**273**	**All mfg.**	**170**	**44**	**1,947.3**	**.1011**	**68**
2421		General sawmills & planing mills	7	3	165.2	1.2168	91
Skagit		**All mfg.**	**30**	**11**	**1,870.4**	**.0971**	**96**
Skamania		**All mfg.**	**4**	**3**	**60.2**	**.0031**	**84**
Snohomish	**256**	**All mfg.**	**121**	**29**	**2,106.1**	**.1094**	**85**
2037		Frozen fruits & vegetables	5	2	111.2	2.5737	95
2421		General sawmills & planing mills	10	4	175.7	1.2941	88
2431		Millwork	5	1	58.1	1.2315	82
2647		Sanitary paper products	1	1	233.1	3.4897	100
3721		Aircraft	2	2	767.7	3.0815	100
3825		Electricity-measuring instruments	1	1	108.1	2.2389	100
Spokane	**264**	**All mfg.**	**151**	**35**	**1,975.8**	**.1026**	**77**
3334		Primary aluminum	1	1	241.5	4.1188	100
3353		Aluminum sheet, plate, & foil	1	1	566.3	7.5273	100
Stevens		**All mfg.**	**16**	**3**	**145.9**	**.0076**	**56**
Thurston	**200**	**All mfg.**	**26**	**10**	**246.4**	**.0128**	**77**
Wahkiakum		**All mfg.**	**1**	**1**	**99.0**	**.0051**	**100**
Walla Walla		**All mfg.**	**20**	**6**	**225.1**	**.0117**	**81**
Whatcom	**30**	**All mfg.**	**48**	**19**	**1,787.3**	**.0928**	**91**
2611		Pulp mills	1	1	134.5	4.3153	100
3334		Primary aluminum	2	2	209.2	3.5680	100
Whitman		**All mfg.**	**2**		**10.1**	**.0005**	**0**
Yakima	**302**	**All mfg.**	**88**	**19**	**713.8**	**.0371**	**56**
2033		Canned fruits & vegetables	10	5	157.0	1.9718	93
State Total		**All mfg.**	**1,761**	**465**	**31,718.9**	**1.6469**	**84**

WEST VIRGINIA

County SIC	Metro Area	Industry	Total Plants	Large Plants	Total Shipments ($ Mil.)	% Of U.S. Shipments	% In Large Plants
Barbour		**All mfg.**	**6**		**19.3**	**.0010**	**0**
Berkeley		**All mfg.**	**25**	**11**	**389.5**	**.0202**	**88**
3714		Motor-vehicle parts & accessories	2	2	112.5	.2729	100
Boone		**All mfg.**	**2**		**8.0**	**.0004**	**0**
Braxton		**All mfg.**	**4**	**1**	**16.6**	**.0009**	**33**
Brooke	**270**	**All mfg.**	**16**	**8**	**325.6**	**.0169**	**89**
Cabell	**121**	**All mfg.**	**64**	**19**	**1,372.7**	**.0713**	**87**
3221		Glass containers	2	2	109.9	3.0213	100
3312		Blast furnaces & steel mills	1	1	173.8	.3041	100
3356		Nonferrous rolling & drawing n.e.c.	1	1	430.4	13.4064	100
3743		Railroad equipment	1	1	84.5	1.5792	100
Calhoun		**All mfg.**	**2**	**1**	**8.7**	**.0005**	**93**
Clay		**All mfg.**	**2**		**4.0**	**.0002**	**0**
Doddridge		**All mfg.**	**1**		**2.4**	**.0001**	**0**
Fayette		**All mfg.**	**9**	**2**	**217.2**	**.0113**	**93**
3313		Electrometallurgical products	1	1	177.1	13.9427	100

WEST VIRGINIA (cont.)

County SIC	Metro Area	Industry	Number Of Plants Total Plants	 Large Plants	1981 (S&MM Est.) Total Shipments ($ Mil.)	 % Of U.S. Shipments	 % In Large Plants
Gilmer		**All mfg.**	**2**	**1**	**21.6**	**.0011**	**77**
Grant		**All mfg.**	**6**	**1**	**27.2**	**.0014**	**24**
Greenbrier		**All mfg.**	**17**	**5**	**103.4**	**.0054**	**57**
Hampshire		**All mfg.**	**3**		**8.6**	**.0004**	**0**
Hancock	**270**	**All mfg.**	**28**	**14**	**2,805.4**	**.1457**	**98**
3262		Vitreous china food utensils	1	1	60.8	24.3395	100
3312		Blast furnaces & steel mills	1	1	2,112.9	3.6974	100
Hardy		**All mfg.**	**4**	**2**	**37.6**	**.0020**	**92**
Harrison		**All mfg.**	**33**	**12**	**350.3**	**.0182**	**72**
3229		Pressed & blown glass n.e.c.	2	2	36.3	1.7287	100
Jackson		**All mfg.**	**4**	**2**	**878.3**	**.0456**	**100**
3353		Aluminum sheet, plate, & foil	1	1	836.0	11.1121	100
Jefferson		**All mfg.**	**9**	**4**	**117.8**	**.0061**	**88**
Kanawha	**54**	**All mfg.**	**89**	**24**	**3,385.0**	**.1758**	**92**
2812		Alkalies & chlorine	1	1	125.1	5.1586	100
2824		Noncellulosic synthetic organic fibers	1	1	267.3	2.6372	100
2869		Industrial organic chemicals n.e.c.	6	4	1,705.9	4.9078	98
Lewis		**All mfg.**	**8**	**4**	**55.7**	**.0029**	**85**
Logan		**All mfg.**	**14**	**2**	**57.2**	**.0030**	**33**
McDowell		**All mfg.**	**2**		**7.5**	**.0004**	**0**
Marion		**All mfg.**	**35**	**7**	**361.9**	**.0188**	**79**
3641		Electric lamps	1	1	117.9	5.1370	100
Marshall	**295**	**All mfg.**	**16**	**7**	**371.4**	**.0193**	**89**
3944		Games, toys, & children's vehicles	1	1	73.4	2.0749	100
Mason		**All mfg.**	**9**	**3**	**157.0**	**.0082**	**82**
Mercer		**All mfg.**	**26**	**8**	**163.1**	**.0085**	**64**
Mineral	**69**	**All mfg.**	**8**	**2**	**45.1**	**.0023**	**49**
Mingo		**All mfg.**	**9**		**26.3**	**.0014**	**0**
Monongalia		**All mfg.**	**28**	**11**	**233.7**	**.0121**	**75**
Monroe		**All mfg.**	**1**	**1**	**13.3**	**.0007**	**100**
Morgan		**All mfg.**	**6**	**2**	**50.9**	**.0026**	**78**
Nicholas		**All mfg.**	**15**	**4**	**95.2**	**.0049**	**50**
Ohio	**295**	**All mfg.**	**37**	**14**	**372.8**	**.0194**	**74**
3547		Rolling-mill machinery	2	2	91.8	19.9132	100
Pendelton		**All mfg.**	**3**	**1**	**22.8**	**.0012**	**84**
Pleasants		**All mfg.**	**2**	**2**	**547.2**	**.0284**	**100**
Pocahontas		**All mfg.**	**4**	**1**	**24.2**	**.0013**	**60**
Preston		**All mfg.**	**9**	**3**	**71.7**	**.0037**	**42**
Putnam	**54**	**All mfg.**	**8**	**1**	**26.9**	**.0014**	**49**
Raleigh		**All mfg.**	**27**	**3**	**110.6**	**.0057**	**39**
Randolph		**All mfg.**	**21**	**5**	**92.3**	**.0048**	**42**
Ritchie		**All mfg.**	**10**	**3**	**55.9**	**.0029**	**50**
Roane		**All mfg.**	**8**	**3**	**95.7**	**.0050**	**86**
Summers		**All mfg.**	**3**	**1**	**12.1**	**.0006**	**50**
Taylor		**All mfg.**	**6**	**4**	**45.0**	**.0023**	**91**
Tucker		**All mfg.**	**8**	**3**	**85.7**	**.0044**	**75**
Tyler		**All mfg.**	**2**	**1**	**159.5**	**.0083**	**98**
Upshur		**All mfg.**	**7**	**3**	**69.8**	**.0036**	**82**
Wayne	**121**	**All mfg.**	**15**	**4**	**173.9**	**.0090**	**77**
Webster		**All mfg.**	**4**		**11.0**	**.0006**	**0**
Wetzel		**All mfg.**	**11**	**5**	**289.1**	**.0150**	**94**
Wirt	**206**	**All mfg.**	**1**		**1.0**	**.0001**	**0**
Wood	**206**	**All mfg.**	**50**	**18**	**1,115.8**	**.0579**	**87**
2821		Plastics materials & synthetic resins	2	2	611.6	3.7389	100
3423		Hand & edge tools n.e.c.	1	1	94.1	3.0633	100
Wyoming		**All mfg.**	**5**		**12.0**	**.0006**	**0**
State Total		**All mfg.**	**744**	**233**	**15,132.5**	**.7857**	**88**

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WISCONSIN

County SIC	Metro Area	Industry	Number Of Plants Total Plants	 Large Plants	1981 (S&MM Est.) Total Shipments ($ Mil.)	 % Of U.S. Shipments	 % In Large Plants
Adams		**All mfg.**	**4**	**1**	**23.4**	**.0012**	**73**
Ashland		**All mfg.**	**10**	**4**	**80.6**	**.0042**	**67**
Barron		**All mfg.**	**35**	**11**	**305.6**	**.0159**	**66**
Bayfield		**All mfg.**	**1**	**1**	**10.1**	**.0005**	**100**
Brown	**111**	**All mfg.**	**126**	**34**	**2,485.3**	**.1290**	**84**
2621		Paper mills, except building paper	4	4	452.8	2.3863	100
2647		Sanitary paper products	8	5	721.3	10.7984	95
3554		Paper-industries machinery	6	2	128.2	7.7467	86
Buffalo		**All mfg.**	**1**		**16.6**	**.0009**	**0**
Burnett		**All mfg.**	**9**	**1**	**26.4**	**.0014**	**17**
Calumet	**16**	**All mfg.**	**23**	**7**	**539.4**	**.0280**	**77**
3519		Internal-combustion engines n.e.c.	1	1	248.5	2.1722	100
Chippewa	**81**	**All mfg.**	**35**	**12**	**250.6**	**.0130**	**74**
Clark		**All mfg.**	**23**	**2**	**140.2**	**.0073**	**21**
Columbia		**All mfg.**	**43**	**12**	**234.9**	**.0122**	**55**
Crawford		**All mfg.**	**9**	**3**	**130.4**	**.0068**	**90**
Dane	**167**	**All mfg.**	**167**	**45**	**3,064.1**	**.1591**	**84**
2011		Meat-packing plants	1	1	1,197.7	2.8203	100
2439		Structural wood members n.e.c.	4	2	47.3	4.9742	92
3692		Dry & wet primary batteries	1	1	82.4	8.9100	100
Dodge		**All mfg.**	**58**	**18**	**540.2**	**.0280**	**77**
3524		Lawn & garden equipment	1	1	87.5	4.5795	100
Door		**All mfg.**	**16**	**8**	**343.9**	**.0179**	**95**
3731		Ship building & repairing	2	2	168.6	1.4098	100
Douglas	**80**	**All mfg.**	**13**	**4**	**406.2**	**.0211**	**88**
Dunn		**All mfg.**	**11**	**2**	**61.7**	**.0032**	**54**
Eau Claire	**81**	**All mfg.**	**32**	**11**	**739.2**	**.0384**	**83**
3011		Tires & inner tubes	1	1	282.8	2.5961	100
Florence		**All mfg.**	**1**		**2.6**	**.0001**	**0**
Fond du Lac		**All mfg.**	**66**	**20**	**904.5**	**.0470**	**76**
3519		Internal-combustion engines n.e.c.	2	1	227.9	1.9922	96
Forest		**All mfg.**	**2**	**2**	**17.3**	**.0009**	**100**
Grant		**All mfg.**	**13**		**68.2**	**.0035**	**0**
Green		**All mfg.**	**24**	**9**	**273.4**	**.0142**	**52**
Green Lake		**All mfg.**	**28**	**3**	**133.6**	**.0069**	**45**
Iowa		**All mfg.**	**9**		**23.0**	**.0012**	**0**
Iron		**All mfg.**	**5**	**1**	**40.8**	**.0021**	**61**
Jackson		**All mfg.**	**8**	**1**	**59.8**	**.0031**	**38**
Jefferson		**All mfg.**	**77**	**24**	**984.3**	**.0511**	**80**
3079		Miscellaneous plastics products	8	4	99.1	.3628	93
3585		Refrigeration & heating equipment	1	1	168.2	.8040	100
Juneau		**All mfg.**	**17**	**5**	**155.0**	**.0080**	**68**
Kenosha	**137**	**All mfg.**	**50**	**17**	**3,015.1**	**.1565**	**97**
3423		Hand & edge tools n.e.c.	1	1	58.9	1.9174	100
3711		Motor vehicles & passenger-car bodies	2	1	2,392.5	2.7231	100
Kewaunee		**All mfg.**	**15**	**4**	**145.6**	**.0076**	**68**
La Crosse	**141**	**All mfg.**	**50**	**14**	**741.3**	**.0385**	**86**
3585		Refrigeration & heating equipment	1	1	336.4	1.6080	100
Lafayette		**All mfg.**	**3**	**1**	**40.9**	**.0021**	**45**
Langlade		**All mfg.**	**17**	**5**	**113.1**	**.0059**	**55**
Lincoln		**All mfg.**	**27**	**10**	**336.4**	**.0175**	**83**
Manitowoc		**All mfg.**	**75**	**23**	**996.3**	**.0517**	**83**
3361		Aluminum foundries	4	4	182.8	5.9741	100
3585		Refrigeration & heating equipment	2	2	210.4	1.0057	100
3842		Surgical appliances & supplies	1	1	127.1	2.7265	100
Marathon	**293**	**All mfg.**	**75**	**29**	**1,377.4**	**.0715**	**85**
2022		Natural & processed cheese	5	2	388.0	4.0280	82
2435		Hardwood veneer & plywood	2	1	51.8	3.2230	97
2621		Paper mills, except building paper	3	3	229.4	1.2090	100
3531		Construction machinery	2	2	146.6	.7132	100
3621		Motors & generators	1	1	56.0	.8662	100
Marinette		**All mfg.**	**32**	**14**	**581.7**	**.0302**	**90**
2621		Paper mills, except building paper	3	2	141.6	.7463	96
Marquette		**All mfg.**	**4**	**1**	**29.9**	**.0016**	**36**
Menominee		**All mfg.**	**1**	**1**	**35.1**	**.0018**	**100**
Milwaukee	**175**	**All mfg.**	**852**	**273**	**13,326.6**	**.6919**	**85**
2051		Bread, cake, & related products	7	6	106.7	.9302	97
2082		Malt beverages	3	3	1,478.4	15.0620	100
2531		Public-building & related furniture	7	3	44.8	4.6667	87
2641		Paper coating & glazing	3	1	118.0	2.5303	89
2653		Corrugated & solid fiber boxes	10	6	121.6	1.1745	86

1981 (S&MM Est.)

County SIC	Metro Area	Industry	Number Of Plants Total Plants	Large Plants	Total Shipments ($ Mil.)	% Of U.S. Shipments	% in Large Plants
2711		Newspapers	3	2	67.6	.3697	97
2752		Lithographic commercial printing	22	6	197.4	1.4817	67
3079		Miscellaneous plastics products	27	8	206.8	.7572	70
3111		Leather tanning & finishing	16	8	191.5	9.1065	84
3143		Men's nonathletic footwear	1	1	43.5	1.7551	100
3317		Steel pipe & tubes	1	1	55.3	1.5279	100
3321		Gray-iron foundries	8	5	97.1	1.1388	92
3325		Steel foundries n.e.c.	10	9	129.6	4.7687	97
3411		Metal cans	4	4	319.4	3.7326	100
3429		Hardware n.e.c.	3	1	115.1	1.6223	92
3443		Fabricated plate work (boiler shops)	19	9	268.4	2.6906	89
3444		Sheet-metal work	13	2	66.8	1.0296	60
3448		Prefabricated metal buildings	2	2	78.9	3.1920	100
3462		Iron & steel forgings	4	3	320.7	8.1905	100
3469		Metal stampings n.e.c.	13	4	70.4	1.1070	65
3519		Internal-combustion engines n.e.c.	5	4	1,133.4	9.9074	100
3523		Farm machinery & equipment	1	1	407.0	3.2743	100
3531		Construction machinery	16	9	695.9	3.3857	92
3532		Mining machinery	5	3	255.7	7.3024	96
3536		Hoists, industrial cranes, & monorails	10	3	139.5	10.0715	89
3541		Metal-cutting machine tools	9	2	70.1	2.6928	84
3544		Special dies, tools, jigs, & fixtures	23	3	38.4	1.1248	46
3551		Food-products machinery	4	2	81.8	2.1776	93
3566		Speed changers, drives, & gears	3	3	181.7	15.1291	100
3569		General industrial machinery n.e.c.	12	5	66.3	2.5888	83
3599		Machinery, except electrical, n.e.c.	24	6	175.4	1.3151	65
3612		Transformers	5	3	56.9	1.7540	94
3613		Switchgear & switchboard apparatus	9	3	79.3	1.5618	83
3621		Motors & generators	7	3	67.8	1.0487	86
3622		Industrial controls	11	7	449.0	12.9477	97
3662		Radio & TV communication equipment	5	1	107.5	.4464	82
3693		X-ray apparatus & tubes	2	2	390.9	15.6085	100
3714		Motor-vehicle parts & accessories	4	2	354.1	.8589	98
3751		Motorcycles, bicycles, & parts	1	1	149.8	13.6058	100
3822		Environmental controls	4	4	96.6	4.2789	100
3993		Signs & advertising displays	14	4	49.3	2.3261	63
Monroe		**All mfg.**	**15**	**5**	**99.2**	**.0052**	**58**
Oconto		**All mfg.**	**27**	**7**	**249.9**	**.0130**	**68**
Oneida		**All mfg.**	**9**	**4**	**179.2**	**.0093**	**87**
Outagamie	**16**	**All mfg.**	**89**	**34**	**1,871.3**	**.0972**	**91**
2259		Knitting mills n.e.c.	1	1	29.6	25.8515	100
2621		Paper mills, except building paper	5	5	642.6	3.3866	100
2641		Paper coating & glazing	2	1	191.9	4.1150	99
3623		Electric welding apparatus	1	1	99.5	5.7876	100
Ozaukee	**175**	**All mfg.**	**84**	**30**	**790.0**	**.0410**	**74**
3524		Lawn & garden equipment	2	2	85.7	4.4853	100
3621		Motors & generators	3	3	117.8	1.8221	100
Pepin		**All mfg.**	**4**	**1**	**26.7**	**.0014**	**27**
Pierce		**All mfg.**	**8**	**4**	**86.0**	**.0045**	**73**
Polk		**All mfg.**	**24**	**8**	**182.7**	**.0095**	**45**
Portage		**All mfg.**	**26**	**11**	**318.3**	**.0165**	**82**
Price		**All mfg.**	**12**	**5**	**131.6**	**.0068**	**83**
Racine	**224**	**All mfg.**	**166**	**55**	**1,987.8**	**.1032**	**85**
2731		Book publishing	1	1	136.9	1.9770	100
2842		Polishes & sanitation goods	1	1	230.9	5.3017	100
3523		Farm machinery & equipment	5	3	231.7	1.8640	97
3531		Construction machinery	5	3	242.3	1.1788	97
3561		Pumps & pumping equipment	4	2	72.8	1.8314	96
3568		Power-transmission equipment n.e.c.	1	1	50.6	3.2023	100
3621		Motors & generators	9	5	81.7	1.26[illegible]7	91
Richland		**All mfg.**	**13**	**4**	**80.3**	**.0042**	**62**
Rock	**129**	**All mfg.**	**70**	**24**	**1,756.1**	**.0912**	**90**
3143		Men's nonathletic footwear	1	1	43.5	1.7551	100
3519		Internal-combustion engines n.e.c.	1	1	248.5	2.1722	100
3554		Paper-industries machinery	1	1	194.9	11.7771	100
3711		Motor vehicles & passenger-car bodies	1	1	684.6	.7792	100
3951		Pens & mechanical pencils	1	1	98.1	12.3614	100
Rusk		**All mfg.**	**10**	**3**	**69.2**	**.0036**	**64**
St. Croix	**176**	**All mfg.**	**23**	**5**	**179.3**	**.0093**	**67**
Sauk		**All mfg.**	**34**	**11**	**388.7**	**.0202**	**77**
3482		Small-arms ammunition	2	1	65.2	11.1225	97
Sawyer		**All mfg.**	**3**		**19.6**	**.0010**	**0**

1981 (S&MM Est.)

County SIC	Metro Area	Industry	Number Of Plants Total Plants	Large Plants	Total Shipments ($ Mil.)	% Of U.S. Shipments	% In Large Plants
Shawano		**All mfg.**	**16**	**6**	**210.1**	**.0109**	**72**
Sheboygan	**258**	**All mfg.**	**114**	**40**	**1,608.0**	**.0835**	**82**
2022		Natural & processed cheese	4	3	440.9	4.5772	99
3431		Metal sanitary ware	1	1	145.8	23.1612	100
3319		internal-combustion engines n.e.c.	1	1	151.9	1.3278	100
Taylor		**All mfg.**	**10**	**7**	**130.2**	**.0068**	**95**
Trempealeau		**All mfg.**	**17**	**3**	**180.9**	**.0094**	**75**
Vernon		**All mfg.**	**6**		**21.0**	**.0011**	**0**
Vilas		**All mfg.**	**6**	**1**	**29.8**	**.0015**	**43**
Walworth		**All mfg.**	**76**	**20**	**467.6**	**.0243**	**68**
Washburn		**All mfg.**	**3**		**5.2**	**.0003**	**0**
Washington	**175**	**All mfg.**	**77**	**2[illegible]**	**944.4**	**.0490**	**79**
3519		Internal-combustion engines n.e.c.	1	1	146.2	1.2780	100
3523		Farm machinery & equipment	4	2	102.4	.8238	96
3634		Electric housewares & fans	2	2	185.2	5.8412	100
Waukesha	**175**	**All mfg.**	**323**	**65**	**2,524.3**	**.1311**	**69**
2752		Lithographic commercial printing	10	2	129.0	.9683	69
3519		Internal-combustion engines n.e.c.	2	1	251.5	2.1984	99
3531		Construction machinery	3	2	283.2	1.3778	97
3551		Food-products machinery	7	3	134.3	3.5752	92
3612		Transformers	3	2	74.7	2.3026	97
Waupaca		**All mfg.**	**50**	**14**	**673.3**	**.0350**	**74**
2013		Sausages & other prepared me[illegible]	1	1	149.9	1.2681	100
Waushara		**All mfg.**	**10**	**1**	**35.3**	**.0018**	**26**
Winnebago	**16**	**All mfg.**	**134**	**40**	**1,892.0**	**.0982**	**82**
2431		Millwork	6	3	60.7	1.2866	91
2621		Paper mills, except building paper	8	6	524.0	2.7616	97
2653		Corrugated & solid fiber boxes	4	2	115.3	1.1137	90
2732		Book printing	1	1	88.2	3.7159	100
3321		Gray-iron foundries	2	2	116.3	1.3640	100
3713		Truck & bus bodies	2	2	49.2	1.2588	100
3714		Motor-vehicle parts & accessories	2	1	107.2	.2600	97
Wood		**All mfg.**	**48**	**20**	**1,062.9**	**.0552**	**84**
2621		Paper mills, except building paper	3	3	472.7	2.4912	100
State Total		**All mfg.**	**3,572**	**1,082**	**51,002.2**	**2.6481**	**82**
WYOMING							
Albany		**All mfg.**	**12**	**1**	**47.9**	**.0025**	**30**
Big Horn		**All mfg.**	**6**	**1**	**47.7**	**.0025**	**38**
Campbell		**All mfg.**	**3**		**9.8**	**.0005**	**0**
Carbon		**All mfg.**	**3**	**1**	**338.3**	**.0176**	**97**
Converse		**All mfg.**	**2**		**10.0**	**.0005**	**0**
Crook		**All mfg.**	**2**		**5.0**	**.0003**	**0**
Fremont		**All mfg.**	**14**	**2**	**105.1**	**.0055**	**27**
Goshen		**All mfg.**	**3**	**1**	**62.2**	**.0032**	**78**
Hot Springs		**All mfg.**	**1**		**4.1**	**.0002**	**0**
Johnson		**All mfg.**	**2**		**7.0**	**.0004**	**0**
Laramie		**All mfg.**	**23**	**7**	**481.7**	**.0250**	**86**
Lincoln		**All mfg.**	**6**	**1**	**70.0**	**.0036**	**48**
Natrona	**50**	**All mfg.**	**37**	**8**	**1,683.1**	**.0874**	**68**
Niobrara		**All mfg.**	**1**		**3.0**	**.0002**	**0**
Park		**All mfg.**	**7**	**1**	**260.4**	**.0135**	**87**
Platte		**All mfg.**	**2**		**5.3**	**.0003**	**0**
Sheridan		**All mfg.**	**11**	**1**	**58.2**	**.0030**	**34**
Sweetwater		**All mfg.**	**6**	**3**	**127.4**	**.0066**	**92**
Teton		**All mfg.**	**6**		**14.7**	**.0008**	**0**
Uinta		**All mfg.**	**4**		**10.5**	**.0005**	**0**
Washakie		**All mfg.**	**6**	**2**	**93.0**	**.0048**	**72**
Weston		**All mfg.**	**5**		**112.8**	**.0059**	**0**
State Total		**All mfg.**	**162**	**29**	**3,557.2**	**.1847**	**69**

NATIONAL TOTAL		**ALL MFG.**	**142,793**	**42,595**	**1,925,998.7**	**100.0000**	**81**

NOTE

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1 C1200-1 7/27/82

S&MM
SALES & MARKETING MANAGEMENT

MAY 17, 1982
A BILL PUBLICATION
THREE DOLLARS

AN S&MM SPECIAL SECTION
Cooperative advertising:
Just the weapon for a tough fight
Page 61.

Selling is child's play

Markita Andrews is a supersalesgirl—the 10-year-old Girl Scout has been New York City's top-selling cookie salesperson two years in a row. Now, she's the subject of *The Cookie Kid*, a new sales motivation film which reveals her secret: Set a goal and stick to it. Page 38.

All's sell in ComputerLand
Page 40.

California's new gold fever
Page 43.

Complete S&MM index for 1981
Page 99.

Inside Out

S&MM interviews the two men who will pilot Pan Am's sales and marketing operations. Page 20.

Kaiser breaks a mold and casts off tradition in its aluminum sales organization. Page 20.

Minolta focusses on direct mail to sell copiers. It cuts its mailing list in half and still doubles sales. Page 21.

Talking computer terminals are the latest brainstorm from a trio that already won big in electronic games. Page 21.

A case of bad beer selling practices may go to the Supreme Court. Page 24.

Sterling Drugs is itching for a bigger share of the growing flea-killer market. Page 26.

There's no salt in NoSalt, a sodium-free product from Norcliff Thayer, sold not only in drug but in food stores. Page 27.

A tasty trade show featured the flavors of 432 food companies. Page 29.

Dart Resorts hits its mark in California, where it sells lots of prime real estate. Page 29.

Letter from Ohio. The Buckeye State is coping with the recession, as an S&MM editor found on a three-city tour. Page 48.

Strategic planning is the basic ingredient in product marketing, says the Conference Board's Earl Bailey. Page 52.

S&MM marketgraph. Hispanics: Youth still has its fling. Page 58.

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What's Coming Up

An S&MM Special Report: Selling Through Independent Reps. All parties agree that more companies will be using independent reps, for a variety of reasons. In this 32-page Special Report, S&MM shows how to make reps at least as productive as direct salespeople. June 7.

Make it money! A housewife, a chaser of promotions, has this message: Forget cents-off—give her cash refunds. July 5.

An S&MM Special Section: Sales Meetings. Tips for planning a meeting that makes the sales force eager to attend and eager to complete. July 5.

1982 Survey of Buying Power. S&MM's annual survey of U.S.-Canadian population changes, retail sales, and household income provides marketers with essential data on consumer behavior. July 26.

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ABP MPA BPA ABC

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S&MM's cover photo by Marcea Koffsky

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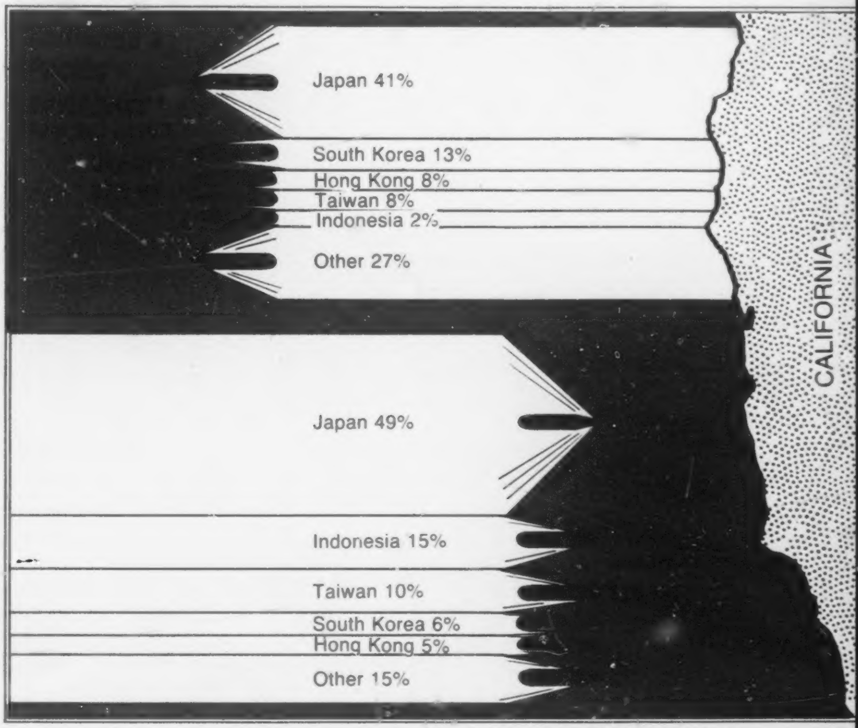
Pacific area countries will buy and sell at a record level in this decade—their economic growth is expected to be twice the world rate—and California companies are determined to lead in making them into new customers.

California's new gold fever

By LIZ MURPHY
West Coast Editor



Source: Security Pacific National Bank.

California should change its nickname from the Golden State to the Lucky State.

It had the good luck to have gold deposits, oil, a perfect climate for tourism and agriculture, abundant sunshine for movie production and, now, perhaps luckiest of all, the "perfect" geographical location. It is the right state in the right place at the right time to cash in on the developing markets of the "Pacific Rim" nations, a bonanza that reduces the gold rush to a slow crawl.

In a report published this month, *Regional Perspective–Los Angeles–1982,* the Bank of America predicts that California could score big in that trade—and could do so even this year. The report notes, "Pacific Basin economies will expand faster than growth rates worldwide. In particular, Asia is expected to grow by approximately 4% in real terms, or twice the worldwide rate. Thus exports to those countries through West Coast ports will increase."

Fortunately for the state's balance of payments, exports have been increasing at a faster rate than imports, 30% vs. 20%. True, trade growth for 1981 was slower than 1979–80, but Richard King, the state's first director of international trade, notes, "even slow growth is good growth." (King has since left his post to open his own consulting firm.)

With a 9% or 10% growth this year, the Bank of America forecasts that the state's global trade for 1982 will expand faster than either U.S. or world trade; total imports and exports for California are projected at $80 billion. This represents an 18% increase over last year and a $48 billion increase over just five years ago.

Despite the deceleration in last year's growth the 1981 figures are still impressive. Some examples: 41% of the nation's textile fibers trade, 29% of the country's fruit and nut trade, 39% of its electrical machinery equipment trade, and 23% of its optical, scientific, and photographic equipment, and 21% of its wearing apparel. Indeed, if California were a separate country, it would rank twelfth in international trade. The state's Office of International Trade estimates that 1 in every 10 jobs in the state is dependent upon international trade. Now, those who are not already in the act are scurrying to get a piece of the action.

Larger companies such as Hewlett-Packard, Fluor, Allied Materials, and Safeway (it recently signed a merchandise exchange agreement with Allied Import Co., Inc., a Tokyo trading company organized by four Japanese retailers) have learned how to operate in what still seems to many marketers

Duncan takes the plunge

Duncan Enterprises, a Fresno, CA, manufacturer of ceramic products, could have a future in the Pacific, a determination its marketing vice president, David Lewis, says was made about a year ago. Then, Duncan's foreign sales were somewhat happenstance.

Examples: an Australian kiln manufacturer set up a distributorship on hearing about Duncan's products through a plant foreman it hired; Canadian tourists bought its product in the U.S., and then set themselves up as distributors north of the border.

After deciding it wanted more sales abroad, Duncan looked for an export manager, a hunt quickly abandoned when a financial analysis showed it could cost the company $100,000 a year for an experienced person, a bilingual secretary, and some travel. Says Lewis, "We found ourselves up against a program where we had to be aggressive, but couldn't afford to put on four or five international travellers to get the business going. So we shifted emphasis."

Duncan's solution was to get the advice of foreign trade consultant Richard King, and sign a performance agreement with Import Export Management Service, Dallas, thus getting a broader range of expertise for their expenditures than they could by hiring one export manager.

The results of Duncan's new emphasis on exports are already evident. Lewis says that while domestic sales are down 4% in dollars, export sales are up 15% in dollars, and he expects that, within 10 years, foreign sales will equal domestic sales. Licensing will play a big part in these sales because of the nature of some of the company's products. Says Lewis, "Our molds are very expensive tradewise to ship." Within six months, Duncan is to sign its first licensing agreement, a $1 million arrangement it has created with a company in Australia.

a perplexing world of trade and nontrade barriers.

Even so, marketers from large companies still are in evidence at conferences and seminars on Pacific Rim trade which have proliferated in the past few months. Significantly, so are those from small companies. Ed Kramer, national and international sales manager of the Clary Corp., San Gabriel, CA, says, "I do nothing but go to seminars." His company, which manufactures uninterrupted power supplies to facilitate clean lines for computers, has been in international markets for seven years. "Our sales are up 105% for the first quarter over last year's first quarter." Kramer says about Pacific Rim customers, "You've got to do business their way. That's why when we put a rep in, not only can he speak the language, he also knows the customs."

Stanley Epstein, president of Anglo American Aviation Co., Los Angeles, who has been exporting aerospace parts for 30 years, says, "Some products are easy to sell and some are difficult and nontariff barriers do exist, but sometimes the problem is overstated. The solution is to get out there and sell. If you show them you have a better mousetrap, eventually you'll find a way but it takes time. The U.S. can have a lively trade if it gets over its syndrome of using these markets as stopgaps when things are not selling at home. These places have to be looked on as real markets." Anglo American has offices in Singapore, Korea, Japan, and Australia, and Epstein notes that his problems are not with barriers but with the high interest rates and the currently strong dollar. "Unless these level out I look for a new order reduction of 25% for 1982."

Keep a 'presence'

Allied Materials, Santa Clara, CA, a manufacturer of electronic components fabrication equipment, finds that presence is the answer. Elizabeth Baird, a spokeswoman for Allied, says, "Trying to market products from here into Japan without Japanese management is very difficult. For the past two years we've had a subsidiary in Japan. Prior to that we had an agreement with a Japanese trading company to market our products. But it's hard to get the kind of penetration you need when they're representing so many products. Since opening our subsidiary our sales have gone up from $1.4 million in 1978 to over $13 million in 1981. This shows what a difference it makes when you're there, marketing as a Japanese company."

Two California executives who are not finding it all that easy to sell in the Pacific are David R. Berry, vice president, international sales, Whiteworth Pharmaceuticals, Inc., Gardena, and George Humple, director, export marketing, Howmedica, Inc., Irvine, the dental products division of Pfizer.

Berry says, "Based on letters I get, the potential markets are there. But I keep hearing from Korea and Taiwan that our prices are too high. Yet when I travel there I find our prices beat out the local manufacturers. Also there's a new trade barrier in Taiwan. In order to sell, say, vitamin E there the seller has to also be the manufacturer." To do that, he says, his company would have to make an expensive investment in equipment. He adds, "All the companies that are selling vitamin E in Taiwan are not selling products they themselves manufacture. Taiwan has virtually eliminated many manufacturers unless the latter go about it dishonestly. We don't want to do that."

Howmedica's Humple has found that with the Koreans and Taiwanese, "Price is all they seem to be interested in. We get a lot of interest when we send out material or they find out about you. We do what we normally do, set prices based on expected gross profit.

"We go over there, spend a lot of time, come back to this country, and generally we get a statement reconfirming interest but the prices they want to pay are so far out of line, we'd have to drop our prices 50%." He adds, "I travel all over Asia and there seems to be a completely unrealistic view as to price. They seem unaware of brand name and other benefits of the product."

Looking for bargains

Charles Shu, director of Far East Trade Services, the trading arm of the Republic of China, answers, "Everyone tries to bargain." Shu and his counterparts from Japan and Korea, Shusaku Hirano, of the Japan Trade Center, and Byung In Chun, director of the Korean Trade Center, presented their sides of the trading picture as well as shopping lists and helpful hints at a recent Pacific Rim seminar presented by the Sales and Marketing Executives Assn. of Los Angeles.

Hirano, whose government is conducting about 100 meetings with businesspeople throughout the U.S., told his audience, "There are those who say Japan is a closed society. That is not the case. The problem is a lack of aggressive promotion." He says special opportunities exist in Japan for marketers of clothing; women's apparel, particularly knits, and short fur coats; kitchenware; and fine table and linen ware. Hirano emphasized the need of attractive packaging and suggested less sugar be used in food products destined to be sold in Japan. "We Japanese prefer less sugar."

Byung said Korea is interested in joint ventures. It is to hold a trade fair in September in Seoul with 40,000 businesspeople attending from throughout the world. The aim is for foreign companies to exhibit parts and machinery with Korean manufacturers making bids for production of the parts and equipment in Korea. With labor costs so much lower than in the U.S., Byung says "everybody benefits."

In addition to joint ventures, Byung says his country needs to import equipment for energy development, machinery, metallurgy, fine chemicals, and environmental control equipment as well as software technologies in business management, international marketing, and banking.

Shu of the Republic of China noted that the language of contracts is one of the biggest stumbling blocks to doing business. He told the would-be traders to pay full attention to details and to research their markets. Shu says his country is in need of textile products, electronic equipment, machine tools, agricultural and pumping equipment, and metals.

Richard King estimates that 85% of California's international business is now being done by 100 companies located in the state. "There are thousands of little companies in California that could be in the international market but aren't, either because they don't know how to go about it or they aren't aware of it," he says. "But if a company has a good track record domestically, in most cases, it can find a market overseas. All a company needs is the right product and know-how to conduct business the way it's done in the country it wants to penetrate."

Which, sadly, is more than a marketer of western refrigerators was willing to invest. When its products arrived in Japan, they couldn't be squeezed past customers' front doors.

PANIC
H. Martin

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S&MM MARKETGRAPH

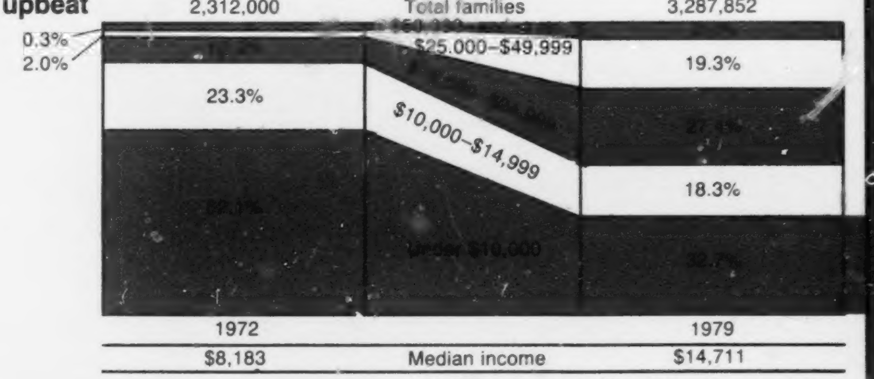
Hispanics: Youth still has its fling

Youth-oriented strategies may be generally on the decline, but if you sell to the Hispanic market they're still a necessity. Almost one out of three Hispanics in the U.S. (32.1%) is under 15 years of age vs. only 21.3% whites, according to the Census Bureau's first report on socioeconomic data from the 1980 Census. More than two-thirds of Hispanic families (68%) have children compared to less than half (49%) of their white counterparts.

This youthfulness partly explains why only 19.4% of those 25-and-older have been exposed to college as against 21.8% of blacks and 33.2% of whites. Still, it hasn't stopped Hispanics from sharing in the overall shift to the upper income brackets. Between 1972 and 1979, the proportion of Hispanic families in the $20,000–$49,999 class soared 865%, to 633,647; those in the $50,000+ group 700%, to 78,408. (For more about the 1980 Census, page 98.)

Hispanic incomes on the upbeat

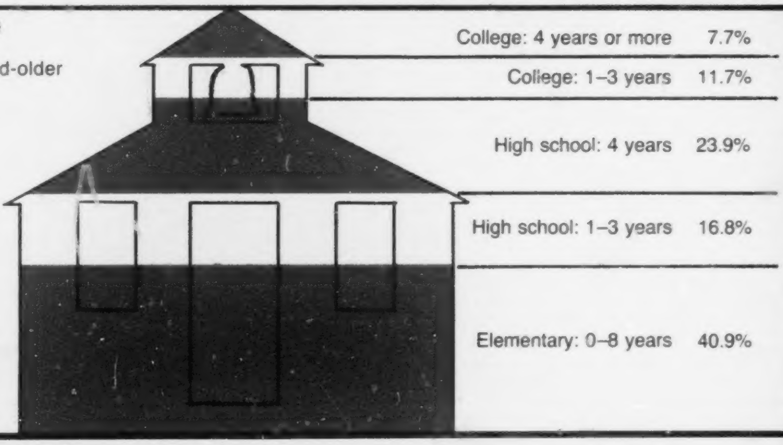
% of families by income group



Note: Details may not add to 100% due to rounding.

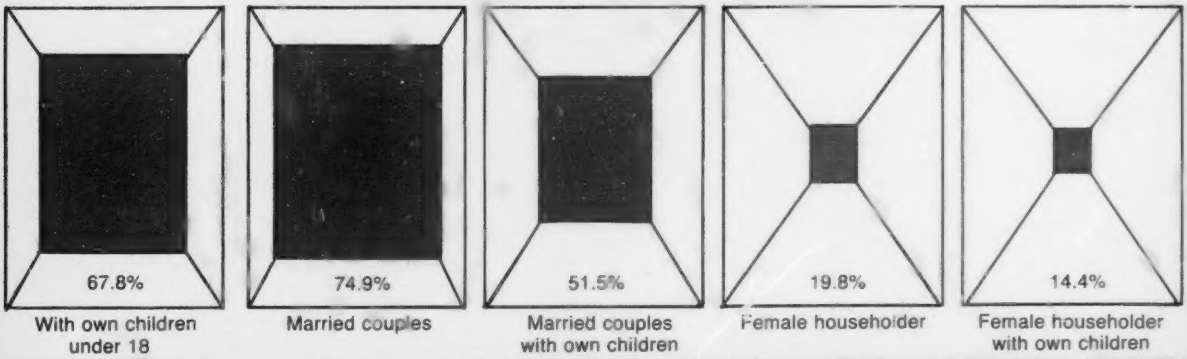
College explosion yet to come

Years of school completed, persons 25-and-older



Hispanic children are a vital market

% of all families



Sources: Census Bureau, *1980 Census of Population and Housing: Provisional Estimates of Social, Economic, and Housing Characteristics: PHC80-S1-1; Money Income and Poverty Status of Families and Persons in the United States: Series P-60, No. 127.*

S&MM's
Special
Co-op
Advertising
Section

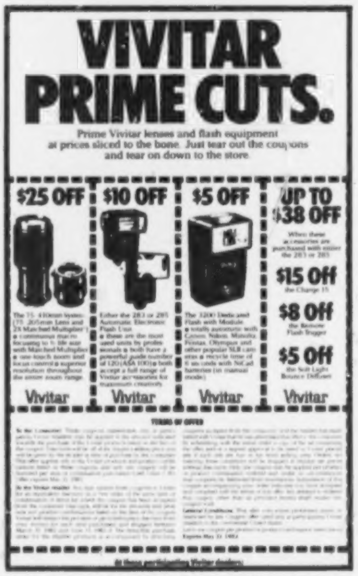
Just the weapon for a tough fight

By MARTIN EVERETT
Managing Editor

If conventional advertising represents the standard armament of consumer goods companies, cooperative advertising must be the choice of their rapid deployment forces. Equipped with a kit of tactical weapons, co-op commandos are always supposed to be on the alert to fight a limited war in any market sphere on a moment's notice. The current, hostile economy means that they are being called to arms more than ever. This is the gist of findings turned up in S&MM's just-completed exclusive survey on cooperative advertising and those gleaned from interviews with executives in manufacturing, retailing, and the media.

Because co-op skirmishes are local and may involve money contributed in various proportions by supplier, distributor, and dealer (see story, page 76), the extent of today's co-op activity is difficult to measure precisely. Tough times, after all, do not necessarily make co-op flourish everywhere. Manufacturers of fans, blenders, and other tabletop appliances have all but abandoned co-op because of intense competition from the Far East. (Given a choice of a 3% advertising allowance or a simple 1% price discount from a manufacturer, most stores in this industry are opting for the latter.)

Not so in many other industries, however. In grocery products, where co-op falls under the heading of promotional allowances, there is a parade of new entrants and a revitalization of long-standing programs.


VIVITAR PRIME CUTS.

Prime Vivitar lenses and flash equipment at prices sliced to the bone. Just tear out the coupons and tear on down to the store.

$25 OFF

$10 OFF

$5 OFF

UP TO $38 OFF

When these accessories are purchased with either the 283 or 285

$15 Off the Charge 15

$8 Off the Remote Flash Trigger

$5 Off the Soft Light Bounce Diffuser

Vivitar

TERMS OF OFFER

Vivitar dealer-listing ad ran in 13 markets on Apr. 23 and May 7.

For instance, Consolidated Foods' L'eggs Products Div., which has never offered any kind of trade allowances, recently switched tactics and now has a program for reimbursing retailers for advertising that promotes its hosiery.

Campbell Soup has had promotional allowances for years on most of its products but has not required grocery chains to actually run ads until the last year or so. "We had to get tougher because we weren't getting the performance," says Frank A. Dudowicz, director of promotion, noting that the program is designed to encourage stores to feature Campbell products as prominently as possible in their ads.

PepsiCo's Frito-Lay subsidiary, which previously had offered the usual trade allowances, this January added a program which reimburses stores that promote its snacks in ads that are between two and six column inches in size. "This has helped us especially in areas like the Northeast where feature support by the trade has been weak," says John Norcross, manager of sales promotion. There is also a marked increase in co-op activity in such industries as automotive parts, furniture, hardware, and building materials (see story, page 70), says Edward H. Zimmerman Jr., vice president, co-op development, for the Advertising Checking Bureau, New York City.

S&MM's survey, conducted by research director Elizabeth G. Diederichs, shows there has been a slight increase in money budgeted for co-op this year—and lots of activity among medium-sized companies and newcomers to co-op. The survey, which was mailed to over 1,000 companies and produced 178 usable responses, indicates that 38% of the respondents budgeted $500,000 or more for co-op, up from 36% in 1981. Of the companies reporting, however, nearly a quarter have a budget of under $100,000.

How much of this money will actually be spent? Some 46% of the respondents say they used over three-quarters of their available co-op last year, about the same figure that appeared in S&MM's last survey two years ago.

Newspapers continue to be the dominant co-op medium, but there are significant changes within this category. Nearly 45% of respondents using newspapers say their co-op programs permit the use of free distribution papers, and this

Highlights of S&MM's survey on cooperative advertising

1. What is the purpose of your co-op advertising program?

	1982	1981	1980	1979
Build sales for our most profitable product or line	63.5%	60.1%	70.9%	66.4%
Meet competitors' efforts	44.9	41.0	40.3	38.8
Launch a new product	43.3	40.4	44.0	39.6
Accede to requests of retailers	41.0	36.5	40.3	37.3
Build sales in a particular region	33.1	29.8	38.1	32.1
Build sales for a weaker product or line	28.7	26.4	29.9	27.6
Accede to requests of wholesalers, distributors, etc.	27.0	24.2	26.1	23.9
Even out peaks and valleys of demand	11.8	10.1	12.7	13.4

2. What amount of money is made available for co-op advertising?

	% Of Respondents			
	1982	1981	1980	1979
$3,000,000 and over	12.4%	10.1%	6.7%	5.2%
$1,000,000–$2,999,999	14.0	14.6	17.2	15.7
$500,000–$999,999	11.8	11.2	21.7	17.2
$200,000–$499,999	14.6	13.5	20.9	25.4
$100,000–$199,999	14.6	11.8	15.7	14.9
Under $100,000	24.2	21.9	13.4	13.4
No answer	8.4	16.9	4.4	8.2
	100.0%	100.0%	100.0%	100.0%

3. Of the money available, what percentage was used?

	% Of Respondents	
% Used	1981	1979
100%	15.2%	10.4%
75%–99%	30.3	33.7
50%–74%	17.4	26.9
25%–49%	17.4	13.4
10%–24%	9.6	8.2
1%–9%	2.8	2.2
No answer	7.3	5.2
	100.0%	100.0%

4. Is an advertising agency involved in your co-op program?

Yes	34.3%
No	60.6
No answer	5.1

If Yes, in what areas?

	Amount of Involvement		
	A Great Deal	Some	None
Placing ads in media	14.8%	26.2%	59.0%
Creation of programs	13.1	37.7	49.2
Creation of ads	47.5	36.1	16.4
Handling, auditing, billing	11.5	6.5	82.0

Base: 61 companies that use ad agencies.

5. Does your company train its field sales representatives to use co-op advertising?

	1981	1979
Yes	65.2%	73.2%
No	33.1	26.1
No answer	1.7	0.7

Base: 116 companies in 1981 that provide training; 98 companies in 1979. Multiple answers makes totals more than 100%.

Base for all tables, unless otherwise noted, is 178 replies in 1981–82 and 134 in 1979–80. Percentages may total more or less than 100% because of multiple answers and no answers.

6. In which media did you spend your co-op funds?

	Avg. Budget Of Companies Reporting	
	1981	1979
Newspapers	58.3%	55.8%
Catalogues or flyers	14.2	14.9
Radio	10.9	13.6
TV	6.4	6.8
Magazines	4.6	3.1
Outdoor	0.9	N.A.
Other	4.7	5.8
	100.0%	100.0%

If you used newspapers, what percent (calling newspaper expenditures 100%) was in:

	% Of Companies Using Newspapers	% Of Total Newspaper Expenditures
Paid circulation papers		
Daily and Sunday	89.7%	76.5%
Weeklies and biweeklies	67.3	17.2
Free distribution papers	44.9	6.3

Base: 156 companies that use newspapers.

If you used catalogues, what percent (calling catalogue expenditures 100%) was in:

	Distribution Method	% Of Total Catalogue Expenditures
Retail catalogues sent:		
By mail	68.8%	44.4%
In newspapers	43.1	25.8
Direct market catalogues or flyers	46.8	26.3
Other	4.6	3.5

Base. 109 companies that use catalogues.

7. Do your field sales representatives work with any media or media groups in connection with your co-op program?

	1981	1979
Yes	33.7%	45.5%
No	65.2	54.5
No answer	1.1	——

8. Do you try to get retailers in an area to pool their co-op allowances?

	1981	1979
Yes	26.4%	41.0%
No	61.8	56.8
No answer	11.8	2.2

9. Do you have any program to evaluate the effectiveness of your cooperative advertising program?

	1981	1979
Yes	35.4%	41.0%
No	60.1	57.5
No answer	4.5	1.5

10. How do you feel about your co-op program?

	1981	1979
Fairly well satisfied	45.5%	61.8%
Needs improving	41.0	36.4
We have a long way to go	10.7	——
No answer	2.8	1.8

Copies of S&MM's Survey

While supplies last, readers may obtain a free copy of the complete 1982 Survey of Cooperative Advertising by writing, "Co-op," on a business card and mailing it to:

CO-OP SURVEY
c/o Elizabeth G. Diederichs
Research Director
Sales & Marketing Management
633 Third Ave.
New York, NY 10164-0563

figure is likely to grow as others follow such companies as Eastman Kodak and Levi Strauss, which now allow retailers to advertise in free papers that are audited.

Although about 46% of the respondents say they are satisfied with their co-op programs, over half indicate that they either need improvement or "have a long way to go." A handful of marketers describe how they systematically evaluate effectiveness of their co-op programs, but 60% confess that they don't try to do this at all.

In talking with marketers who have used co-op successfully for some time, however, S&MM finds that there is no lack of innovation. For instance, Bruce Cummings, director of U.S. marketing at Vivitar Corp., Santa Monica, CA, faced a typical marketing problem a few weeks ago as he approached the spring selling season that is critical in the photographic equipment business. "We wanted to move quickly with a promotion to get an extra inventory turn for the dealer and for Vivitar," says Cummings. "A straight dealer-loading program obviously wouldn't pull the product through the way we wanted, so we decided to run dealer-listing ads in 13 key markets in addition to our regular co-op program."

Ordinarily, Cummings might have put the word out by having Vivitar's 60 field salespeople sign up dealers, but because he needed to move fast he decided to use the Newspaper Co-op Network (NCN), a new service which enables advertisers to place dealer-listing ads in selected newspapers with a single order. A joint undertaking of the International Newspaper Advertising and Marketing Executives, the Newspaper Advertising Bureau, and the Advertising Checking Bureau, the service includes estimating the multimarket buy, signing up dealers to participate, and centralized verification and billing (S&MM, Aug. 17, 1981).

"If NCN had not existed, I doubt that we could have done this promotion," says Cummings. Working with Mike Busse and Deidre Braun, co-op specialists from the Los Angeles *Times*, Cummings gave them the markets he wanted, and the information was channelled through NCN's office in Chicago. "They were back to us in three days with a media cost analysis," says Cummings.

Fram Corp., the Bendix subsidiary known best for automotive filters, channels its co-op program through a 270-person sales force, which calls on distributors, which in turn sell

Springfield Cooperates.

The Springfield Newspapers' new Co-Op Department is ready to help you plan and carry out a successful co-op program in Western Massachusetts.

Our Co-Op Coordinator will arrange simplified billing and proof-of-performance. We can help you design an effective program for the use of dealer-earned funds, too. And our 85% reach of the market means one-buy coverage!

Call today and put us to work.
Dwight L. Brouillard (413) 788-1108

The Springfield Newspapers
Largest in Massachusetts Outside Boston
Represented by Newhouse Newspapers

Circle No. 124 on Reader Service Card

Wishful thinking?

Think what it would do for sales if each of your field salesmen had a permanent partner who was a newspaper co-op advertising expert, who could provide free, custom layouts and special billing arrangements, and who wasn't on your payroll!

It's not wishful thinking. It's NACON! A NACON-Member Newspaper knows that the whole purpose of a co-op advertising program is to MOVE MERCHANDISE. And what the co-op coordinator there can do to help is . . . **whatever it takes!**

NACON

Russell Duff
THE ARIZONA REPUBLIC
THE PHOENIX GAZETTE
120 E. Van Buren Street
Phoenix, AZ 85004
602/271-8433

Earl Reith
ATLANTA JOURNAL-CONSTITUTION
P.O. Box 4689
Atlanta, GA 30302
404/526-5156

C. C. Cole
AUSTIN AMERICAN-STATESMAN
166 East Riverside Dr
Austin, TX 78704
512/445-3778

Jan Hefner
BAKERSFIELD CALIFORNIAN
1707 Eye Street
Bakersfield, CA 93302
805/395-7284

Rick Paoli
BERGEN RECORD
150 River Street
Hackensack, NJ 07602
201/646-4222

Chuck Sharpe
ANN HARBOR NEWS
BAY CITY TIMES
FLINT JOURNAL
GRAND RAPIDS PRESS
KALAMAZOO GAZETTE
SAGINAW NEWS
c/o Booth Newspapers (Michigan)
437-16900 W. 8 Mile Road
Southfield, MI 48075
313/569-2474

Tom McCarrick
THE BOSTON GLOBE
135 Morrissey Blvd
Boston, MA 02107
617/929-2117

George Ericson
CHICAGO TRIBUNE
435 N. Michigan Ave
Chicago, IL 60611
312/222-4171

Leo A. Weilmann
DAILY NEWS
14539 Sylvan Street
Los Angeles, CA 91411
213/997-4193

Cy Brown
Al Stewart
DETROIT FREE PRESS
321 Lafayette Blvd
Detroit, MI 48231
313/222-6526

Joseph Mannello, Jr
GANNETT WESTCHESTER ROCKLAND NEWSPAPERS
One Gannett Dr
White Plains, NY 10604
914/694-5338

Maurice Sutton
LOS ANGELES HERALD EXAMINER
1111 South Broadway
Los Angeles, Ca 90015
213/744-8045

Ron Harris
OKLAHOMAN & TIMES
P.O. Box 25125
Oklahoma City, OK 73125
405/231-3575

Marsha Davis
THE OREGONIAN
OREGON JOURNAL
1320 SW Broadway
Portland, OR 97201
503/221-8288

George W. Browne
THE REGISTER
625 N. Grand Ave
Santa Ana, CA 92711
714/953-7923

Dick Baldwin
THE SACRAMENTO BEE
21st & Q Sts
Sacramento, CA 95852
916/446-9339

Chris Wagner
THE SACRAMENTO UNION
301 Capitol Mall
Sacramento, Ca 95812
916/442-7811

Al Larranaga
SAN DIEGO UNION-TRIBUNE
350 Camino de la Reina
San Diego, CA 92108
714/299-3131

Ed Rudige.
STATEN ISLAND ADVANCE
950 Fingerboard Road
Staten Island, NY 10305
212/981-1234

Circle No. 142 on Reader Service Card

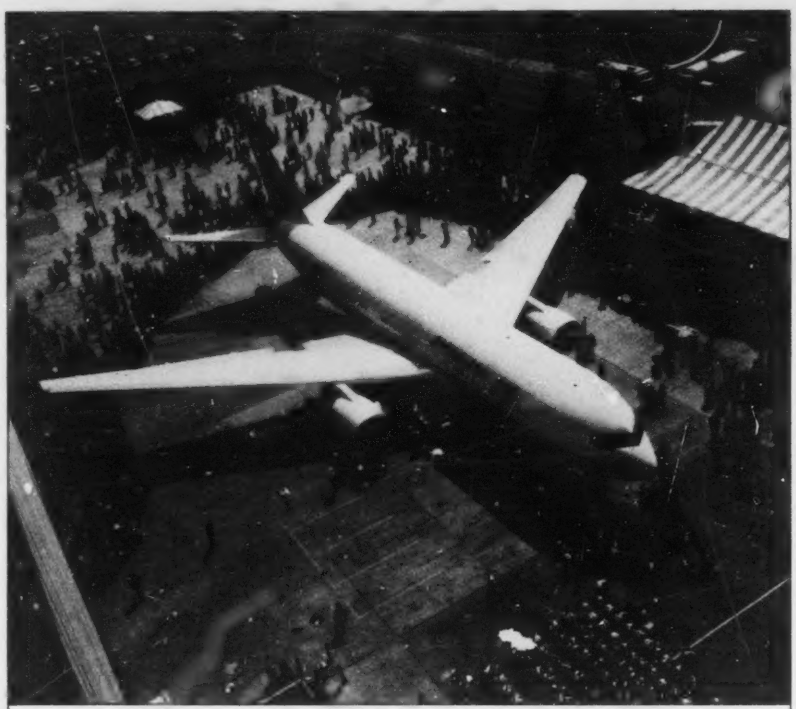
to some 500,000 retail outlets. "We're practically in the packaged goods business," Christin Elliott, communications manager for Fram's Automotive Div., told a recent meeting of the Newspaper Advertising Co-op Network (NACON).

Often it is the retailer who comes up with an idea that puts automotive co-op into high gear. With the help of co-op money from Michelin, Bernard M. Cunningham, president of Avellino's Tire and Auto Service in the Philadelphia suburb of Malvern, PA, appears in TV commercials to offer car owners a $100 U.S. savings bond if they buy four tires at about $80 apiece.

Gaining credibility

Avellino's, which generates about $15 million in annual sales from 18 stores in the Philadelphia metro and outlying areas, had used only print and radio until approached by marketing people from CBS Television last year. "They convinced me that prime time TV could be cost effective for us," says Cunningham, noting that, although he continues to advertise on radio and in the Philadelphia *Inquirer*, he has cut back on suburban dailies and weeklies. "TV reaches the most people with a higher impact," he says, "and it also gives a retailer credibility. Not many independents get on TV; it's supposed to be only for Goodyear and Firestone." Increased TV spending this year means that about 20% of Avellino's budget will go into that medium, compared to 40% each for newspapers and radio.

As retailers of all sorts experiment with radio and TV—and to some extent with cable TV—manufacturers have been forced to revise their co-op programs, which in some cases



More Fuel Efficient Boeing 767 is a leader in commercial aircraft technology. 943 design engineers at Boeing receive Astronautics & Aeronautics.

More Engineers in the Aerospace Industry Read Astronautics & Aeronautics than any other Publication

New air transport designs for improved fuel efficiency have required new concepts . . . over a ton of metal has been replaced by engineering composites in the 767. Only design engineers in the aerospace industry can make these decisions, and *Astronautics and Aeronautics* reaches more than any other . . . often twice as many.

Aerospace design engineers are decisive individuals, with 63.8% determining or specifying requirements, 27.1% having veto power on expenditures. An unusually high percentage have college degrees (95.2%), master's degrees (51.6%) and their doctorate (21.7%), of which 48.0% are aeronautical, and 31.8% are mechanical.

Astronautics & Aeronautics subscribers are enthusiastic readers, spending an hour and nine minutes with each issue, and 81.8% reading 3 or more issues. Less than half read the well known weekly. This brief summary is from the recent study of our readers prepared by the careful people at Starch/INRA/Hooper, available for your review on request to any of our offices, listed below.

Astronautics & Aeronautics

WHERE THE AEROSPACE DECISIONS ARE MADE.

SALES OFFICE: **Chicago, IL 60601,** (312) 346-3074, Jack Farley/**Cleveland, OH 44115** (216) 621-1919/**Los Angeles, CA 91303,** (213) 999-1414, Norman S. Schindler/**New York, NY 10104** (212) 581-4300, Paul S. Pettersen/**St. Petersburg, FL 33715** (813) 866-6176, Urben Farley. Published by the American Institute of Aeronautics & Astronautics, 1290 Avenue of the Americas, N.Y.C. 10104 (212) 581-4300, Michael P. Buckley, Director of Advertising.

Circle No. 143 on Reader Service Card

were limited to print advertising. "We changed our plan and took out all the rules so that the retailer is free to select the media he wants," says Tom Spearman, western regional advertising and promotion manager for General Foods' Oscar Mayer subsidiary. He notes that when approaching a grocery chain with a program for a major "celebration" ad, Oscar Mayer salespeople don't just call on the buyer. A meeting is arranged to make a presentation not only to the buyer but also to a regional merchandiser, the advertising director, and often a decision maker at headquarters who reviews the ad material from the standpoint of how it will affect the chain's overall marketing stance.

Here comes cable

Slight as cable TV's role is in co-op, this seems bound to change quickly as cable operators carve out their niche as a local advertising medium. "I doubt that there are any co-op plans in existence that cover teletext or videotex," Robert Alter, president of the Cabletelevision Advertising Bureau, told a recent co-op seminar sponsored by the Assn. of National Advertisers. "Yet over the next 10 years, these media will have a major impact on how people get product information and do their shopping." Even now, he pointed out, satellite networks provide cable system operators with a variety of programming and, along with it, a substantial number of commercial openings available for local sale. "You will be dealing with co-op claims that involve several types of programming on one system," Alter observed. For those who think co-op already is complicated, his words may be just a hint of what lies ahead.

S&MM
MAY 17, 1982

SIGNIFICANT TRENDS

An update: Americans in the 1980s

You won't find the word "lifestyle" mentioned even once in the first report on socioeconomic data from the 1980 Census that the Census Bureau finally got around to releasing last month. But that's what will be most on marketers' minds as they use the data on marital status, income, education, occupation, and the status of the labor force. That's because the market segments that are the focus of most sales strategies have lately been given a new dimension by lifestyle concepts, and socioeconomic data provide clues to the lifestyles consumers choose.

The report notes that marriage and the family, despite all the knocks they've received, are still, by far, the favorite forms of human relationships, although other modes are growing faster. Three-fifths (60.3%) of males 15 and older were married at the time of the 1980 Census, as were 54.8% of the women (in 1970, 64.[illegible]% of the males and 54.8% of the women were married). This reflects the greater proportion opting for "single blessedness," rising from 26.4% to 29.9% for men and from 20.6% to 23.0% for women, as well as the sharp rise in divorced ratios, from 2.8% to 5.4% for men, 4.0% to 7.2% for women.

Families still dominate the household market, accounting for 73.3% of such buying units. But their modest growth (16%) in the 1970s was eclipsed by a much more rapid growth in one-person households (68%) and female-headed families (51%). Among the 30.3 million families with children under 18, one-fifth (19.1%) are now headed by a single parent.

The increasingly sophisticated consumer that marketers now face is underscored by the Census data. For the first time in U.S. history, more than half of adults 25 years and older in every state are high school graduates. Nationally, two-thirds (66.4%) have a high school diploma compared to just over half (52.4%) in 1970. The proportion with a college degree also rose sharply, from 10.7% to 16.3%.

Buying power more than doubled, as median family income soared 108%, from $9,586 in 1969 to $19,908 in 1979. Some observers cavil that this was no improvement because prices rose almost as fast. Such fretting misses the point, which is the impressive upward movement of families on the income ladder, with the greatest gains occurring in the $25,000-and-over category. Much of this was due to the mothers in these families. Between 1970 and 1980, the proportion of mothers with children under 6 who joined the labor force shot up from 30.8% to 45.8% and those with children between 6 and 17 from 50.1% to 63.2%.

One relatively new market segment, Americans hailing from Asia and the Pacific Islands, is going to get more attention in the future. Despite all that is heard about discrimination keeping minorities' improvements down, this group had the highest family income, $22,075, compared to $20,840 for U.S. whites, $14,711 for Hispanics, and $12,618 for blacks. It also led in educational achievement, with 74% graduating from high school vs. 69% of whites, 51% of blacks, and 43% of Hispanics.

How buying power is distributed

	All Families		*Black Families*		*Hispanic Families*	
Income Group	*% Of Total*	*% Change 1969–79*	*% Of Total*	*% Change 1969–79*	*% Of Total*	*% Change 1969–79*
Under $5,000	7.3%	− 59%	19.4%	− 41%	13.8%	− 24%
$5,000–$9,999	13.2	− 53	21.0	− 24	18.9	− 20
$10,000–$14,999	14.7	− 36	16.7	+ 30	18.3	+ 40
$15,000–$24,999	29.4	+112	23.5	+ 328	27.4	+ 373
$25,000–$49,999	29.8	+790	17.4	+2,512	19.3	+1,765
$50,000-and-over	5.6	+805	1.9	+2,301	2.4	+1,194
Number of families (000)	**[illegible]**	**+15%**	**6,093**	**+25%**	**3,288**	**+61%**
Median income	**$19,908**	**+108%**	**$12,618**	**+108%**	**$14,711**	**+95%**

Note: % change based on number of families in each year.
Source: S&MM calculations; Census Bureau, *1980 Census: Provisional Estimates of Social, Economic, and Housing Characteristics, PHC80-S1-1*
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